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# ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the  
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VOLUME XXXV

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*Ασφαλές καὶ ἔμπεδον ἔστω το σὸν ἔδος. Ἐκ σκότου μὲν  
ἔξαγε φάος, ἐκ δὲ πάθους ἀναψυχὴν.*



ALBANY, N. Y.  
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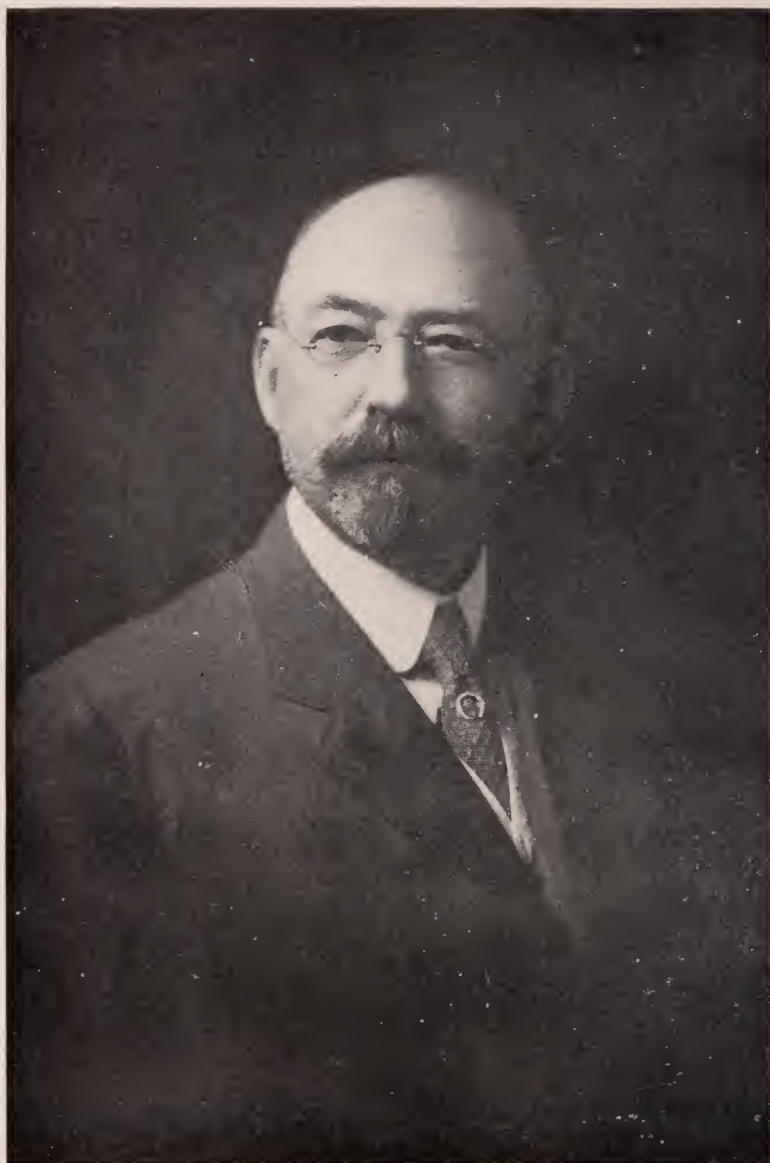
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# ALBANY MEDICAL ANNALS

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## Original Communications

### CLINICAL STUDIES OF THE CIRCULATION WITH THE POLYGRAPH, ESPECIALLY IN REGARD TO THE VENOUS PULSE.

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#### PART ONE

#### *Venous Pulse*

There is probably no department in medicine which lends itself to a mechanical demonstration and explanation as well as does that of cardio-vascular diseases. In any valvular lesion, it is quite possible to explain by purely mechanical laws almost all of the secondary changes occurring in the heart itself, the lungs, the liver, and even in remote parts of the body such as the feet and hands. It is possible by suitable apparatus to record more or less accurately the action of the heart and the varying tension of the blood in the blood vessels. The sphygmograph of Marie has been in existence more than half a century, and since his day the instrument has been greatly improved. Of late years, mainly under the inspiration of the work of Mackenzie, the instrumental study of the heart action has been vigorously followed; the cardiac action and the varying tension of the blood in the arteries and veins in health and disease have been recorded graphically, which not only makes the subject fascinating, but has also added to our understanding of these conditions. The interpretation of these tracings is not easy, and superficially interpreted, they may give us a false idea of possessing a greater knowledge of what takes place in the heart and blood vessels than we really have. It is in the hope of aiding our comprehen-

sion of these tracings, especially of those of the venous pulse, that the following cases are published.

The polygrams illustrating the cases were taken with a von Jaquet's cardio-sphygmograph. The venous pulse curve showed no change in its form whether registered from a tambour or from an open cup; sometimes the curve could be obtained better from the one, sometimes from the other, but it showed exactly the same characteristics in either case. The technical skill necessary to secure curves, which are constant for a given case, is quickly acquired. Of course, by slightly varying the position of the receiver upon the heart or blood vessel very different tracings can be obtained, but a careful application gives usually a satisfactory tracing, evidently more perfect than the others and constant from day to day. It is most important in the study of a polygram that a piece of glass with one or more vertical lines scratched across it should be laid over the polygram in a trough in which both the polygram and the plate of glass fit closely. The vertical line will show what is taking place in all three curves at the same instant. Of course, the systole of the heart is earliest shown in the cardiogram, about one-twentieth of a second later in the venous pulse and in the subclavian, and about one-tenth of a second still later in the radiogram; but these figures vary considerably in different cases. The failure to check the curves by these vertical lines has led, it seems to us in looking over the literature, to many misnomers of the waves in the venous pulse. The histories of the cases are given very briefly.

CASE NO. 1.—February 13, 1913. J. M., Aet. 73, M., the father of twelve children: 7 living, 5 dead. He has been a foreman in a factory, has done no very hard work, and has been of temperate habits. He denies all venereal diseases. His present illness commenced a year ago with pain and weakness in the legs, followed soon after by dyspnoea and cough on exertion. Gradually his legs and abdomen became swollen. Some three months ago he was obliged to give up work. In January he entered a hospital, where he remained three weeks. During the past two months his abdomen has been tapped about once each week and at each tapping two and a half to three gallons of clear yellow fluid have been withdrawn.

*Physical Examination.*—Tall, emaciated man with protuberant abdomen, exhibiting orthopnoea and cyanosis. Cervical veins greatly distended. A large venous sinus is situated at the junction of the right external jugular with the subclavian vein, shown fairly well in the accompanying photograph. Marked venous pulsation can be seen in this sinus and in the veins



To Illustrate Dr. Hun's and Dr. Hawn's Article on "Clinical Studies of the Circulation with the Polygraph, Especially in Regard to the Venous Pulse."

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connected with it and can be felt distinctly with the finger in a superficial vein running downward from the sinus and which can be compressed against the clavicle. Liver greatly enlarged. Marked ascites and edema of legs. Area of cardiac dulness greatly increased horizontally. Cardiac action fairly regular. Loud, blowing, systolic murmur heard over the precordia, loudest at apex and propagated into axilla and back, splashing sound can be heard below apex, synchronous with the heart beat. Accentuation of pulmonic second sound. A few moist râles at the base of each lung. Urine, sp. gr., 1.020, much albumen, a few finely granular casts. A few out of many polygrams taken in this case at various times are given at the end of this paper.

In the first tracing (No. 1) the cardiogram is very poor; the imperfection in it being mainly due to the rapid and excessive respiratory movements, but the tracing of the venous pulse is quite remarkable. It consists of the three waves found in typical tracings of the venous pulse, but these waves are much intensified. When the pressure of the tambour upon the vein is increased, without shifting in the least the position of the receiver, as is done during the last half of the tracing, the character of the curve changes greatly and it becomes a typical tracing of an arterial pulse (an arteriogram): that of the subclavian artery. The three large waves of the venous tracing correspond to the three elevations at the apex and on the descending line of the arterial tracing. It seems altogether reasonable that the dilated vein lying in close contact with the powerfully pulsating artery should receive these pulsations, which will even be exaggerated in the thin-walled, low-tensioned vein. When the pressure on the tambour is increased the effect of the respiration on the venous pulse, which runs parallel to that on the cardiogram, ceases.

The venous pulse tracing in this case bears little resemblance to an arteriogram and yet, occasionally, among the very different looking venous pulse curves a fairly typical arteriogram appears, perhaps in consequence of a little unintentionally increased pressure, especially during expiration. When we compare this solitary arteriogram with the venous pulse tracings which surround it, it becomes evident that the first wave of the venous pulse corresponds to the great first wave of the arterial pulse. The second wave of the venous pulse corresponds with the pre-dicrotic wave of the arteriogram. (Both the first and the second waves, both in the arterial and venous tracings, espe-

cially those in the venous pulse, are much influenced, if not altogether divided into separate waves, by the elasticity of the instrument which is shown in tracing No. 6.) The third wave of the venous pulse corresponds with the dicrotic wave of the arteriogram. When we consider how narrow is the line in this case which divides the venous pulse from the arteriogram, in that a little involuntary increased pressure converts the former into the latter, the three waves of increased tension coinciding completely with each other in the two curves, it seems as if the one must be caused by the other. It does not seem possible that any waves running back from the auricle could coincide so absolutely with the arterial waves or would not introduce additional ones.

In tracing No. 2 the venous pulse in the right jugular is compared with the tracing of the left subclavian artery and by drawing vertical lines it becomes evident that the three waves are synchronous with the waves in the subclavian artery; although the dicrotic wave is not well shown in this tracing, being only occasionally indicated in the tracing of the subclavian artery. The identity of the waves in the venous pulse curve with those in the arteriogram is perhaps more evident in the middle of the tracing, where the smoked paper is run through the instrument at a greater speed. The venous curve shows the influence of the respiration; on inspiration, when the veins are less dilated, the venous pulse is smaller and becomes larger again as the veins become more full of blood during expiration. The radial pulse being further from the heart occurs, as would be expected, a fraction of a second (about one-tenth of a second) later. It is well known that the arterial pulse travels at the rate of from fifteen to twenty-five feet per second and that the venous pulse travels at the rate of about four to ten feet per second. For these two tracings, Nos. 1 and 2, there seems to be no other possible explanation than that the venous pulse is a transmitted pulsation from an adjacent pulsating artery.

In tracing No. 3 the venous pulse in the right jugular is compared with the left radial pulse. Light pressure is applied over the vein at first, then the pressure is increased until the subclavian pulse appears and later the pressure is again diminished. Each wave in the radiogram is seen exaggerated in the

venous pulse and preceding that in the radial by about one-tenth of a second.

All these tracings resemble very closely the typical example of the "normal venous tracing" demonstrated on page 75 (Fig. 44) of Hirschfelder's "Diseases of the Heart and Aorta." But, whereas, in Hirschfelder's curve the first rise, with the machine running rapidly, preceded the carotid pulse, the same is not the case with our curve, where the first rise is synchronous with the subclavian pulse. But the similarity of these venous pulse waves of Hirschfelder to ours is so complete that it seems as if both must have the same pathogenesis. In fact, his carotid pulse waves are not very perfectly traced; so that one is tempted to believe that they do not represent the complete wave but only its summit. Moreover, although Hirschfelder makes no note of it, the little "a" wave present in our curves, which we shall presently describe as being due to the auricular systole, is present more or less distinctly in almost all of Hirschfelder's venous pulse waves, whether the instrument be running fast or slow.

On a number of the pulsations in our tracing, there is a slight rise, marked "a," occurring just before the group of stronger pulse waves. This small wave without doubt is due to the auricular systole, immediately preceding the ventricular systole; but the wave is more often absent than present and is so insignificant in size that it can form no part of the visible venous pulse. It does, however, seem to be due to the sudden arrest of the flow of blood through the vein in consequence of the auricular systole and, therefore, marks the time and existence of the auricular systole, but its absence from the tracing evidently does not show that the auricular systole does not occur.

It is evident from the consideration of the polygrams of this case that a possible, and even probable, explanation of the visible venous pulse is that, with the exception of the small wave "a," it is transmitted from an artery; either from the underlying subclavian, or carotid artery, or perhaps more likely from the innominate artery or aorta; and, thus originated in the dilated venous sinus, it is propagated along the dilated veins emptying into it, even where these latter are not in contact with any artery. For Cushny (*Journal of the American Medical Association*, October 12, 1907, p. 1254) has shown that the "c"



wave of the jugular pulse is found even when the vein is separated from the artery and the handle of a scalpel held between them, which does not prove that this wave was not transmitted from a vein directly and from an artery indirectly, both lying nearer the heart.

It may be said that the case just described is an exceptional one and cannot, therefore, be accepted as convincing. It is to be remembered, however, that it is agreed by all observers that the normal venous pulse can best be taken over the *right* "jugular bulb:" a dilated vein or sinus not unlike the one described in our case, lying just beyond the termination of the innominate artery and not only in actual contact with the subclavian artery but also in close proximity to both the innominate and the common carotid arteries. Nowhere else in the body could a condition be found more suitable for the transmission of the strong impulse from a large artery to an adjacent dilated vein. The fact that the venous pulse can usually be taken only, or much more easily, on the right side of the neck rather than on the left is also an argument for its arterial origin, inasmuch as the accompanying figure photographed from Bourger's atlas shows that the right jugular vein is in much closer contact with large arteries than is the left. There seems to be no reason why if the venous pulse be due to a wave transmitted from the auricle it should not be about as easy to record it on the left side as on the right, as the distance is but little greater.

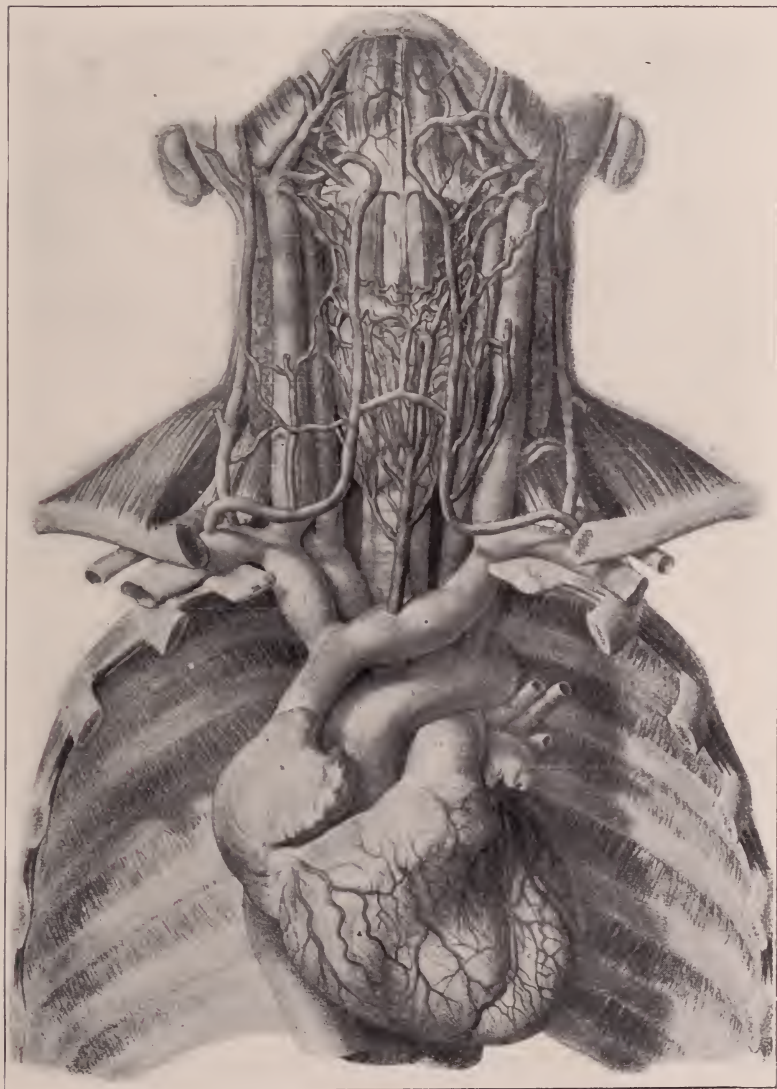
Let us consider another and perhaps more convincing case:

CASE No. 2.—March 26, 1913. M. D., Aet. 43, married, family history unknown, laborer, alcoholic. Denies all venereal diseases. Entered hospital complaining of general pains, edema of legs and of dyspnoea, since March first. Heavily built man with red face, marked edema of both legs and of abdominal walls. Deformity of fingers from injury, slight tremor of hands. Arteries atheromatous and veins moderately dilated and pulsating. Marked thrill in subclavian arteries. Area of cardiac dullness slightly increased in all directions. Apex beat displaced downward and outward. Rough systolic murmur over aortic valves, propagated into subclavians. This murmur is always present and at times also a systolic murmur can be heard at the apex. No enlargement of liver. Lungs normal.

The two polygrams from this case (Nos. 4 and 5) show that the blood set in vibration by being forced through the obstructed

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aortic orifice (which vibration can be felt as a coarse thrill in both subclavian arteries, and which vibration extends as far as the radial artery, as is shown in the radiogram) communicates this vibration to the adjacent dilated vein and causes a venous pulse consisting of a series of vibrating waves. We know of no other possible explanation of a venous pulse of this character than that the vibrations in the vein have been transmitted from the subjacent vibrating artery.

A further peculiar feature of these curves is that they show clearly the suction power of the thorax and heart upon the cervical veins. At the time of the ventricular systole and immediately after the auricular systole, the venous blood flowing freely and even aspirated into the empty auricle which is suddenly made larger by the pulling away of one of its sides, the auriculo-ventricular septum, in the contraction of the ventricle, lowers greatly the tension within the veins. This is shown in the polygrams; the sharp line of fall of tension in the vein occurs nearly synchronously with the sharp line of the rise of tension in the artery; remembering that the radial pulse occurs one-tenth of a second later than the subclavian pulse. This extreme negative phase indicates a rapid emptying of the venous blood into the auricle and Porter has shown experimentally that the venous flow is more rapid during ventricular systole than it is at any other portion of the cardiac cycle. Such a curve could not have been obtained in this case had the veins been as dilated and constantly engorged with blood as they were in the first case with its enormous sinus. This sudden emptying of the moderately distended veins by auricular or thoracic suction, or both, can often be seen in healthy persons; just as the reverse; the congestion of the veins, can be seen where the pressure in the thorax is made positive, by coughing, singing, speaking, straining, holding the breath, etc.

The essential and striking characteristic of this polygram, however, is that as the vein gradually fills with blood again, not only does the tension rise, but the line of rising tension has a vibrating character, due to the communicated impulses from the vibrating artery, which vibration is communicated to the adjacent vein just as it is communicated to the palpating finger. As the vein becomes more distended with blood during the dias-

told the vibrations steadily become greater in amplitude. Not only does the line of tension of the blood in the vein rise but each wave on it becomes larger than the preceding one. In many venous pulse curves the dicrotic wave "*v*" may be relatively larger than the arterial pulse wave "*c*"; not because the dicrotic wave is really stronger but because the vein may be more distended with blood at that time.

Indeed, the amplitude of the venous pulse waves seems to depend rather upon the engorgement of the veins than upon the strength of the arterial impulse. The strength of the thrill in this case is far less than that of the arterial pulse and yet the arterial pulse is not transmitted to the vein, while the much weaker thrill impulses are, simply because the arterial pulse acts upon a vein made empty by auricular suction. The venous pulse in this case is, therefore, more diastolic than systolic. In a patient in extremis the venous pulse is often well marked because the veins are engorged, although the arterial pulsation is much weaker than normal. In large arteries, like the subclavian or innominate, as long as the heart beats at all the pulse must have considerable force and it must have even a greater amplitude than normal in consequence of the low arterial tension.

It would seem, therefore, that all kinds of pulsations and waves in an artery can be transmitted to an adjacent vein if only the latter vessel contains enough blood to take them up. If distended with blood at comparatively low tension the waves of the artery, restrained by its firm walls, may be exaggerated in the thin walled vein, to which they may be transmitted.

These two cases, then, seem to show that not only in one case but in a number of cases the venous pulse may be a transmitted pulsation from an adjacent artery, and need not be dependent upon any changes of pressure within the auricle.

It is also to be remembered that some of the waves in the curves may be due to imperfections in the instrument. Thus, if we exercise a slight pressure on the receiving tambour of a sphygmograph, to represent the slight pressure of the skin upon it, and strike it a gentle tap or push it, the recorder will register not a single wave but several diminishing waves as the impulse is reflected from the elastic surfaces of the apparatus. See tracing No. 6, the upper and lower halves of which were made

at different times, and consequently bear no relation to each other. A double or triple waved venous pulse may thus represent only one powerful impulse from the artery.

Many other polygrams could be shown to confirm the results obtained from the two cases above reported at some length, but it is unnecessary to multiply the evidence and we will content ourselves with giving the polygrams of three cases of mitral regurgitation (Nos. 7, 8 and 9). These polygrams show venous pulse curves similar to those very commonly met with and published, but in each case under a little stronger pressure, or even without this, the character of an arterial pulse can be seen in the venous pulse curve. In the first tracing, the "a" wave, although small, occurs in almost every pulse and is especially distinct when the machine is running rapidly and, of course, disappears when deep pressure brings out the subclavian pulse curve. This "a" wave in the venous pulse in tracing No. 7 corresponds absolutely, as is shown by the vertical lines, with a small wave in the diastole of the tracing of the ventricular (apical) cardiogram, which wave in the cardiogram might well be due to an instrumental error, but occurring so regularly a minute fraction of a second before the "a" wave in the venous pulse it seems that it must be the expression of the auricular systole. There is nothing corresponding to this wave in the tracing of the subclavian artery shown in the latter half of the figure, so that the impulse could not be transmitted from the artery to the vein.

Cushny (*Journal of the American Medical Association*, October 12, 1907, p. 1254) has experimentally demonstrated facts, which are in harmony with the thesis, which we are maintaining in this article. By irritation of the vagus he arrested the ventricular systole while the auricular systole persisted, under which condition there was an "a" wave in the venous pulse but nothing more (because there was no arterial pulse to cause the waves "c" and "v"). In other cases Cushny arrested the heart by vagus stimulation, while he excited the ventricle to contraction mechanically or electrically, the auricle not contracting, and under this condition there was no "a" wave (because the auricle did not contract) but there were well marked "c" and "v" waves (because the contraction of the ventricle caused an arterial pulse which was transmitted to the vein).

In support of this thesis that a fluid, vibrating powerfully under high pressure in an elastic tube, can transmit this vibration in an exaggerated form to fluid under low pressure in an adjacent thin-walled tube, we arranged, mainly by the mechanical dexterity of Dr. Hawn, a crude apparatus representing the conditions in the circulation of the blood existing in the right supra-clavicular space. The heart was a rubber bulb, the artery a thick strong rubber tube and the vein a condom open at both ends, inserted between the cut ends of a rubber tube. The apparatus being full of water and the tubes partly buried in sand the condom was laid in close opposition to the rubber tube and a receiving tambour of the sphygmograph was applied to each. By this means tracings Nos. 10, 11 and 12 were obtained.

In tracing No. 10, after several attempts, a fairly good representation of a radial pulse tracing was obtained from the rubber tube with each closing of the hand over the rubber bulb which represented the heart. Then the other tambour being applied over the condom a series of vibrations were obtained from it. These transmitted vibrations are much larger than the ones causing them in the thicker tube. They are also multiple in consequence of the elasticity of the instrument as shown in tracing No. 6, but they bear close resemblance to the venous pulse tracings Nos. 1 to 3, in fact a very close resemblance to those in No. 3. The tambour was evidently not held very steadily on the condom and at one time slipped off altogether.

In tracing No. 11, made from the same apparatus, we have a slower and very different pulse tracing of less amplitude than in No. 10 and yet not unlike a radiogram often obtained in man. Here, too, we get a transmitted pulsation in the thin-walled vessel: multiple, but the second wave is higher than the first, which cannot be due simply to the elasticity of the instrument, but apparently comes from a slight secondary increase from the continuous wave passing along the arterial tube as is best seen when the instrument is running fast.

Finally in tracing No. 12, between failures, we obtained a tracing in which the pulsations in the firm tube bear little resemblance to a radiogram but in which the pulsation in the condom show a striking resemblance to the venous pulse tracing in Nos. 4 and 5.



From these tracings it is certain that the impulses in a fluid under high tension in a tube can be transmitted enlarged and multiplied to a fluid under low tension in an adjacent tube. It cannot be denied, therefore, that arterial pulsations can be transmitted to adjacent veins. It was impossible for us, and probably is absolutely impossible, to reproduce artificially with rubber tubes and bulbs the exact conditions of the human circulation. But from the approach that we have made to it, we feel certain that could we get a perfect radiogram, alike in all respects to a human radiogram, we could produce also a perfect venous pulse.

In the light of all the evidence given above, it hardly seems possible to deny that in many cases, at least, the venous pulse is a transmitted arterial pulse, and we should modify Lewis's statement ("Mechanism of the Heart Beat," 1911, p. 11) that: "In man, the venous pulse is seen and recorded with the greatest facility in those veins which have but a short distance to travel before reaching the heart" to the effect that: *the larger the artery, the closer it is to the vein, and the more the vein is dilated with blood with its walls moderately tense, the more distinct will be the venous pulse.* Such conditions occur near the heart.

It would be interesting to obtain a tracing from a dilated vein adjacent to an artery in such a position that the vein could be compressed between the point at which the tracing is taken and the heart; so that all influences from the auricle could be eliminated. Such a case we have been unable to find and examine.

The explanation of the venous pulse given above is not the prevalent one. Osler, in his "Principles and Practice of Medicine," Sixth Edition, pp 811-12, says, in speaking of tricuspid regurgitation: "The signs of this condition are: Systolic regurgitation of the blood into the right auricle and the transmission of the pulse wave into the veins of the neck. \* \* \* Marked pulsation in these veins occurs only when the valves guarding them become incompetent."

Strümpell's "Text-book of Medicine," Fourth American Edition, p. 392, states: "The necessary result of tricuspid insufficiency is, that in every systole of the right ventricle a backward current passes through the open tricuspid orifice into the right auricle and thence into the veins of the body. The cause of

this (the venous pulse) is the backward wave of the blood produced at each systole of the right ventricle." Similar statements can be found in many text-books of medicine, but we mention these two authorities only, because, in our opinion their text-books stand preëminent.

In accord with these statements in the text-books, we believe that the great majority of practitioners, who think of the matter at all, believe that the blood leaking back through the insufficient tricuspid valve penetrates into, or at least increases the pressure in, the vena cava superior and thus causes the visible venous pulse. Inasmuch, however, as this leak takes place after the auricular contraction, when the auricle is more or less completely empty, the regurgitating blood must first dilate the empty auricle before it can reach the veins, which would imply a leak so great that the circulation could not long be maintained. Even were such a large leak possible the wave would occur rather at the end than at the beginning of the ventricular systole, which is not the case; so that this explanation, simple and attractive as it is, can hardly be the true one.

The theory, which is practically universally existent among specialists in sphygmographic work, is that the venous pulse is due to, and corresponds with, changes of tension within the right auricle. Thus Mackenzie ("Diseases of the Heart," Second Edition, p. 105) says: "In the venous pulse, we have often the direct means of observing the effects of the systole and diastole of the right auricle and of the systole and diastole of the right ventricle." And again, in his "The Study of the Pulse" (1902), p. 178, Mackenzie says: "The contraction of the auricle and of the ventricle sends waves of blood back into the veins, and it is only when these waves are of sufficient strength to reach the jugulars and more superficial veins that we can detect them." But the existence of other factors are to an extent admitted. Thus Lewis (*l. c.*, p. 15) says: "There can be no doubt that in many tracings of the jugular pulse the shock from an artery lying in the neighborhood of the receiver also aids in its (the second positive, or "c" wave) production;" and Mackenzie (*l. c.*, p. 113) also states that, "The wave "c" is due to the carotid (or carotid and subclavian) pulse."

Porter ("Remarks on the Filling of the Heart," *Journal of Physiology*, 1892, XIII, 513-533), by means of a sound introduced into the auricle and connected with the recording instruments, found a first positive wave of increased pressure at the moment of the auricular systole, followed by a first negative wave. At the commencement of the ventricular systole a second positive wave occurred, followed by a second negative wave which is the most striking fall of pressure in the majority of curves. A third positive wave occurred toward the termination of the ventricular systole, which wave terminated when the tricuspid valves opened. This is followed by a third negative wave which continued until the next auricular systole. Similar results have been obtained by a number of observers. These waves of positive and negative pressure have been used to explain the waves of varying pressure registered from the pulsating vein. The three principal positive venous waves have been named "*a*," marking the auricular systole, "*c*," marking the beginning of the ventricular systole, and "*v*," marking the time of the closure of the semilunar valves—the end of the ventricular systole.

But if the venous pulse is, or even may be, due to a transmitted arterial pulse it becomes very difficult, if not impossible, to say in any given case what part of the tracing is due to pressure changes within the auricle and what to the transmitted arterial pulsation. Moreover, it is to be remembered that some of these venous waves may be due to the elasticity of the instrument, as shown in tracing "6," so that the second of the large positive waves in the first three tracings may be due to elastic rebound, the first two waves being due to only one strong impulse to the veins from the underlying artery.

In regard to the slight elevation "*a*" sometimes found immediately preceding the larger and visible venous pulse this seems certainly to be due to the auricular contraction, for the artery at this instant shows a constant falling tension without usually any pulsation and indeed all observers agree in ascribing this wave to auricular systole, but it is so small that only under very exceptional circumstances can it play any part in the visible venous pulse.

From our study of the polygrams of many individuals, mainly from those suffering from cardiac disease, we have reached the following conclusions:

*1st.* A venous pulse may occur whenever a vein is engorged with blood and lies near, or in contact with, a strongly pulsating artery.

*2nd.* The visible venous pulse is often, if not always, a transmitted pulsation from an adjacent artery.

*3rd.* In venous pulse curves the "a" wave indicates auricular systole. It is a small wave often absent and rarely visible except in the tracing.

We believe that most observers in sphygmographic work, while they do not altogether deny our conclusions given above, yet in their writings attempt to connect the venous pulse waves with changes of tension within the auricle to such a degree that they mislead the general practitioner, if not themselves.

## PART TWO

### *Cardiogram*

We believe there is much misconception among general and even special practitioners of medicine in regard to the information that can be obtained from a cardiogram, which indeed shows little or nothing concerning the varying tension within the ventricle during its contraction, but is of value in a polygram only in so far as it marks the time of the ventricular systole. Furthermore, a satisfactory cardiogram is always difficult, often impossible, to obtain, and the character of its curve varies greatly in the same case under apparently exactly the same conditions. In the case of a visible jugular pulse, it is not very difficult to place the receiving tambour, or cup, lightly over the dilated, pulsating, external jugular vein and to obtain some sort of a record of the variations of pressure within the vein, however difficult it may be to interpret the resulting curve. But in the case of the heart, whether hypertrophied or not, there are interposed between the pulsating heart and the receiving tambour the more or less inflated lung, the unyielding ribs and the intercostal spaces filled with firm fasciae and intercostal muscles; while the apex may lie in the intercostal space and give a sharp, circumscribed impulse, or it may lie behind a rib and give a dull,



diffuse, heaving impulse. Moreover, the respiratory act, moving the chest wall away from and towards the heart and introducing, now more now less, pulmonary tissue in front of it, greatly complicates the operation. Consequently, in not a few cases it is quite impossible to obtain a satisfactory cardiogram. In many cases, however, it is possible with patience to obtain a characteristic and satisfactory curve.

When the receiver of the sphygmograph is placed over the body of the ventricle, whether in mid-precordia or in the epigastrium, the waves of the cardiogram show at first a slight elevation, some of which are marked "*a*" in tracings No. C-1, C-2 and C-3, due to the sudden influx of blood into the ventricle caused by the auricular systole, followed by a deep depression as the ventricle expels the blood and grows smaller. This is well shown in the accompanying tracing; No. C-1, taken from a boy, fourteen years of age, who suffered from congenital heart disease, probably an open foramen ovale. He was undersized, cyanotic and exhibited much dyspnoea on slight exertion. The influence of the respiration upon this cardiogram is clearly shown. The only constant characteristic of a mid-precordial or epigastric cardiogram is the depression at the time of the ventricular systole. In all other respects the curves may differ. Many examples could be given but No. C-2, taken from the epigastrium of a case of mitral regurgitation with absolute failure of compensation resulting in death in a few days after this tracing was taken, and No. C-3, taken from a case of mitral regurgitation with partially broken compensation, will suffice.

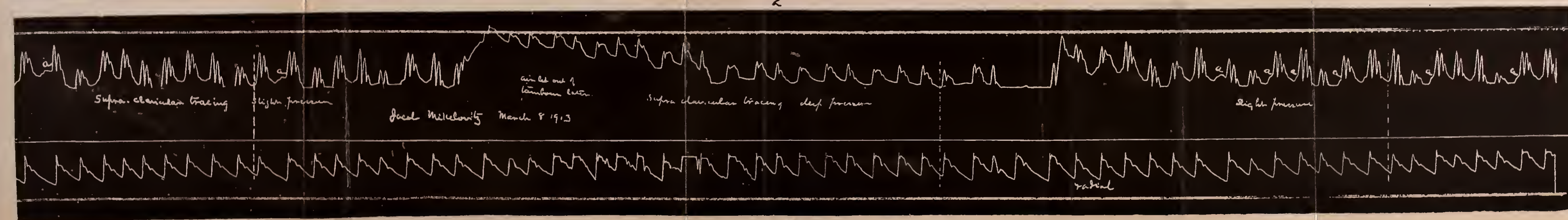
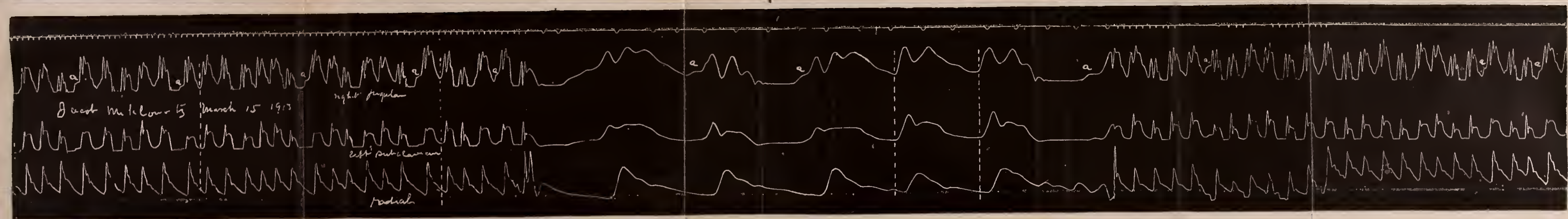
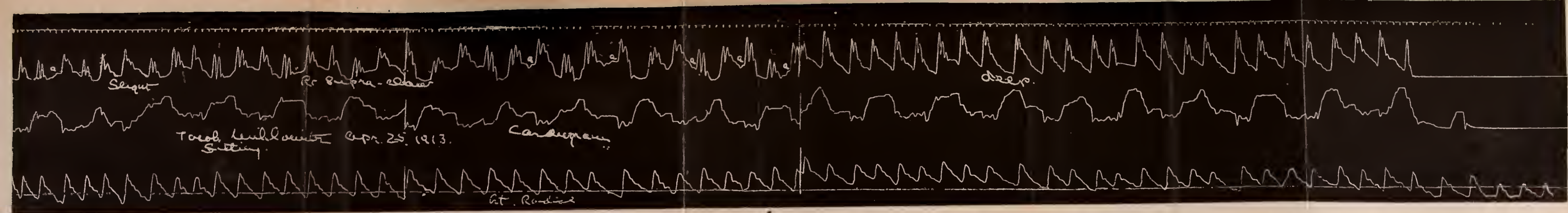
In these three tracings, the cardiograms bear little resemblance to each other, but they each show a decided depression at the time of the ventricular systole, which is often, but not always, immediately preceded by the small wave due to the auricular systole. In tracing C-1 the ventricular systole, which, however, is probably not registered in its entirety, is much shorter than its diastole and occupies but a small fraction, about one-fifth, of the whole cardiac cycle. In this case the compensation was perfect when the patient was at rest. In tracing C-2, taken from a patient on the eve of death, whose pulse was rapid and irregular both in rhythm and force, the ventricular systole was in many cases very much longer than its diastole; so that the heart

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had a very short pause for rest and nourishment. Moreover many of the systoles were very imperfect. The auricular systoles were marked by a larger wave, when present, than in C-1, indicating a dilated and hypertrophied auricle. In tracing C-3, taken from a patient still living, whose compensation was much less severely broken than was the case in C-2, the wave of auricular systole was almost always present and was very large, showing decided auricular hypertrophy as well as dilatation, and the ventricular systole, though often short, was usually fairly long compared with its diastole. It is to be noted that the rapidity with which the wave of high tension travels along the artery varies greatly in these cases. In C-1, the wave travels from the heart to the wrist in about one-sixth of a second; in C-2, in a little less than one-half of a second and in C-3, a little more than one-half of a second. Indeed, the delay in transmission is so great in this latter case that it is not easy to identify the corresponding cardiac and radial curves, in some degree, perhaps, because the radial tracing is not a very good one.

A cardiogram taken at the apex shows a very different curve, the explanation of which is more difficult and complicated than is that of the mid-precordia. Such a cardiogram is shown in No. C-4, which was taken from a case of mitral stenosis with perfect compensation, except that the pulse was rather fast: the systole and diastole being approximately of the same length. This curve may be taken as fairly typical, if any curve can be called typical among the infinite variety of apical cardiograms. It also shows the influence of respiration, but in a different way from curve No. C-1, in that there is no wavy line, but the larger pulse curves occur during expiration, the smaller ones during inspiration. That these rhythmical variations in the cardiogram are due to the respiratory movements is evident from tracing No. C-5, in which there is both the wavy line and the variation in size of the curves, both of which disappear when the breath is held. At the same time the radial pulse gradually becomes stronger as the tension in the veins and capillaries increases and offers greater resistance to the arterial flow. In explaining an apical cardiogram, it is to be remembered that the apex beat is caused by a forward movement of the apex toward the chest wall and that the heart lies free in the pericardial sac and is









Michael Dillon St. Peter's Hospital March 27 1913 Aortic stenosis with venous pulse

right jugular

radial

Michael Dillon Aortic stenosis with venous pulse St. Peter's Hospital March 27 1913

right jugular

radial

tap on uncompressed tambour

tap on compressed tambour

push on compressed tambour

double tap on compressed tambour

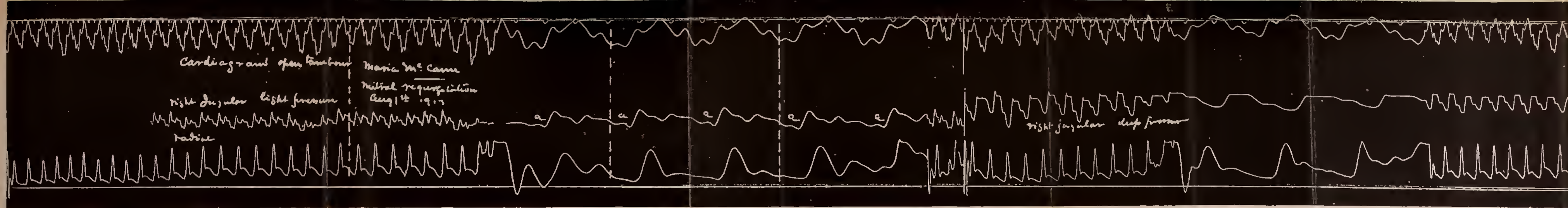
Tap.

Push

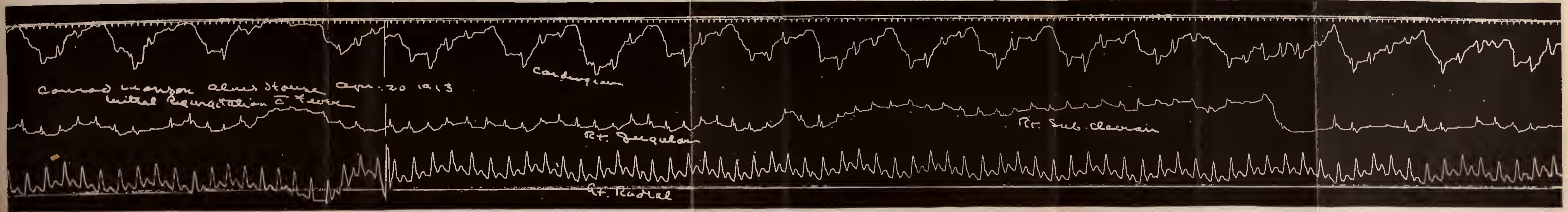
Double Tap.







7



8

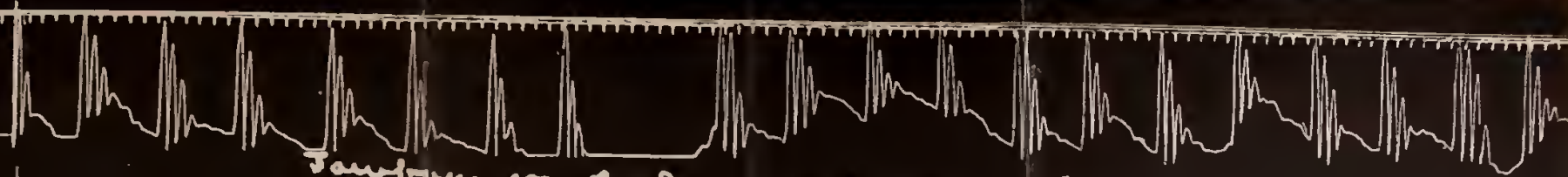
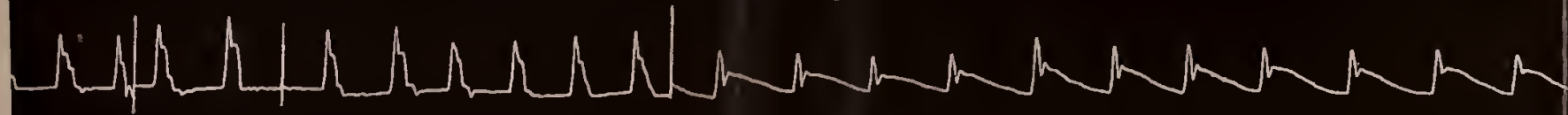


9





Tracings made with artificial circulatory apparatus

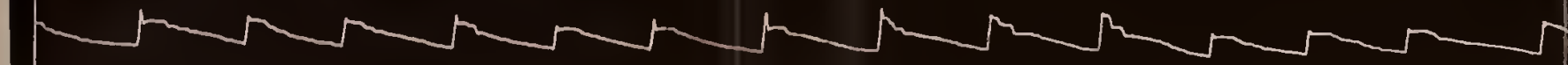


Tracings on condom, representing vein

Tracings on tube representing artery

10

Tracings made with artificial circulatory apparatus



Tracing from condom.

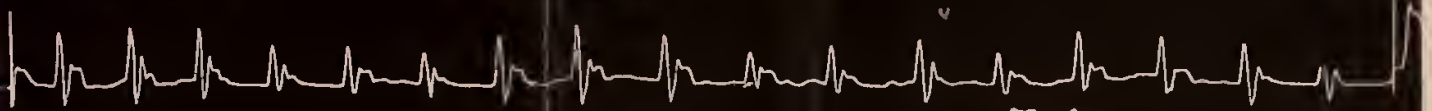
Tracing from tube.

11

Tracings made with artificial circulatory apparatus

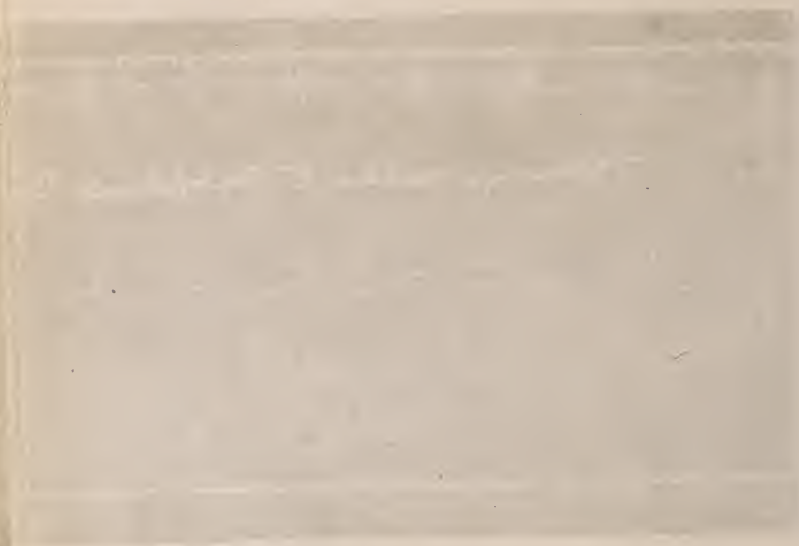


Condom.



Tube.

12



attached only to the origin of the aorta, from which it hangs suspended. The aorta at its commencement is arched backwards and when it is suddenly over-distended with blood, it tends to straighten itself and thus the lower end of the at-that-instant-rigid heart is tilted forward striking the chest wall; all the more so as the contracting ventricle has grown smaller, less bulging, and the better allows of this. A cardiogram taken at the apex, therefore, represents the action of the aorta as much as, or more than, it does the action of the ventricle. In the case of a normally elastic aorta and a fairly normal cardiac muscle and no aortic obstruction or mitral leak and when the apex beat is not very powerful, the cardiogram exhibits an abrupt rise, a short horizontal line and an abrupt fall; such as may be seen in tracing No. C-4. But even under such normal conditions the cardiogram will be greatly modified by the thickness of the chest wall, the relation of the apex beat to the ribs and intercostal spaces, the respiratory movements and many other conditions which may greatly alter the curve or, rarely, render it unobtainable. The only characteristic feature of the apical curve is an elevation at the time of the ventricular systole.

The large curve in the apical cardiograms, described above, may follow immediately a small wave, due to the auricular systole; for the jet of blood thrown into the ventricle by the auricular systole, which blood strikes the anterior ventricular wall near the apex and which in cases of mitral obstruction can often be felt by the palpating finger as a presystolic thrill, is at times recorded in the cardiogram as a small wave immediately preceding the ventricular systole; although it does not appear in the tracing C-4, but is fairly well indicated in some of the curves in C-5.

In tracing C-6, we have a combined cardiogram, one of the tambours being placed over or close to the apex, the other near the mid-precordia. It is evident that with each ventricular systole the tambour at the apex registers a rise, while the tambour at mid-precordia registers a fall. Vertical lines drawn on the tracing taken when the instrument is moving rapidly show that the commencement of these movements in opposite directions are absolutely synchronous. The curve of depression is, however, of somewhat longer duration than is that of the rise, unless we



consider as portions of the rise the terminal oscillations, probably due to the elasticity of the instrument. Just previous to the rise of the ventricular systole the tambour at the apex, whether the instrument be moving fast or slowly, registers a very distinct wave of the auricular systole, which is not registered by the other tambour. The effect of the respiration on this cardiogram is very evident, much more on the curve from the apex than on that from the precordia, whether the instrument be moving fast or slow.

When the apex beat is strong and is situated in an intercostal space, the elevation of the curve in the cardiogram is large, as in tracing No. C-7, taken from a case of mitral regurgitation and aortic obstruction well compensated. In this case, inasmuch as during the ventricular contraction the blood is escaping from the ventricle not only into the aorta but also into the auricle, it might be thought that it would empty itself unusually quickly and the tracing seems to bear this out; the systole occupying only one-third of the time of the diastole. When we observe, however, in this tracing the length of time of the ventricular systole as is shown in the much more trustworthy arteriograms (the subclavian and the radial), *i.e.*, the time from the beginning of the rise of the pulse curve (the commencement of the ventricular systole) to the beginning of the dicrotic wave (the closure of the aortic valves and hence the termination of the ventricular systole) it becomes evident that the cardiogram does not register the whole of the ventricular systole, but only the apex beat. This is shown, also, by another cardiogram, No. C-8, taken at the same time from the same patient, in which the curve is very different and of longer duration. Thus a cardiogram may not even show the duration of the ventricular systole.

In tracing No. C-9, the epigastric and apical cardiograms are compared in the first part of the tracing, and it is evident that as the apex pushes forwards or outwards the body of the ventricle draws backwards or inwards. In the last part of the tracing the apical and the mid-precordial cardiograms are compared together, but it is evident that the mid-precordial point was chosen too near the apex and its tracing has the characteristics of the latter's curve.

In cases where the right ventricle is much enlarged, it may

Europe July St. Vincent M.C. Othello Graham March 27 1913 Congenital Heart Disease Open foramen ovale

cardiac run

radial

C. 1

Jugular

cardiac run over jugular

radial

Kelly M.C. Lake St. Peter's Hospital March 12 1913 Mitral regurgitation

C. 2

uniquant Lie: C. cutting  
Aug. 14. 1913

and precordia

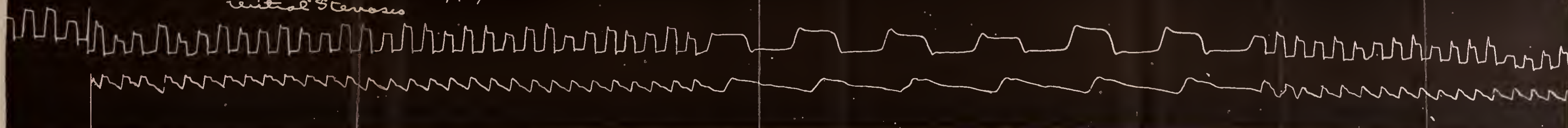
at. R. axis

C. 3



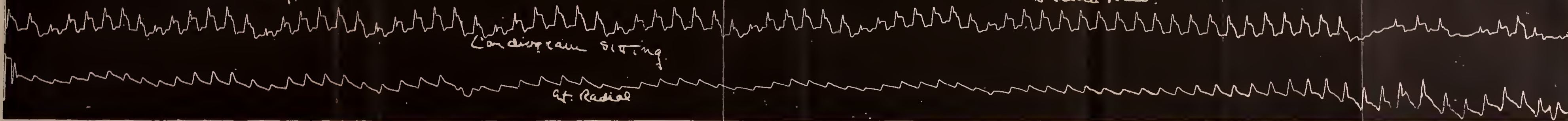


Lees Chas. Kupperman 2/14/13  
initial stenosis



C.4

Raymond Stassen June 3, 1913 Discharge  
Bees  
leg.



C.5

apex on just below st

Inside & above apex

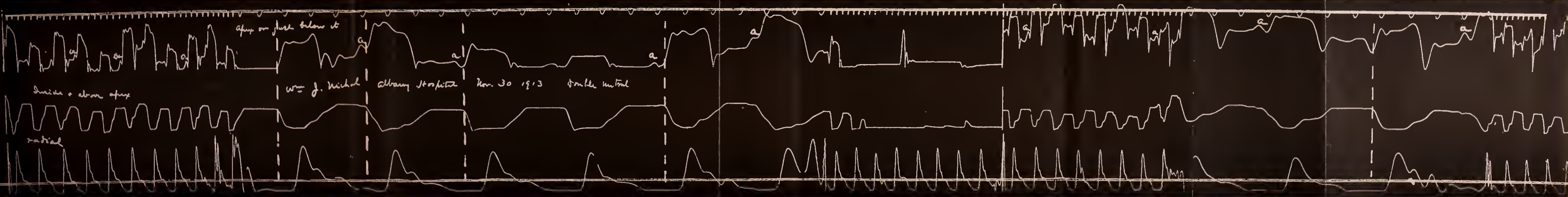
radial

Wm. J. Nichol

Albany Hospital

Nov. 30 1913

Double interval



C.6.

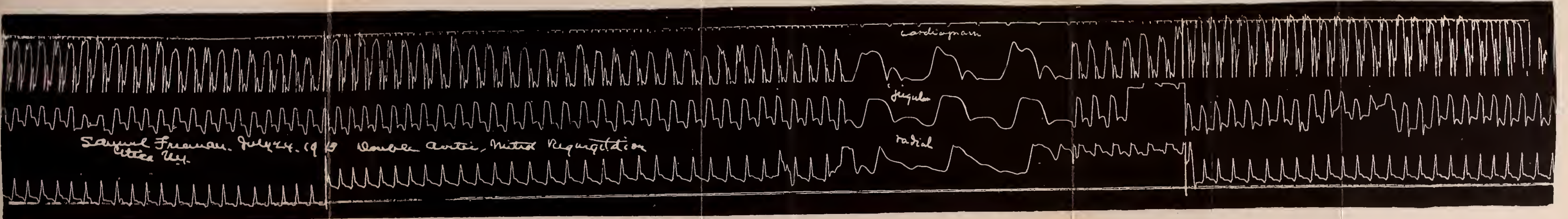




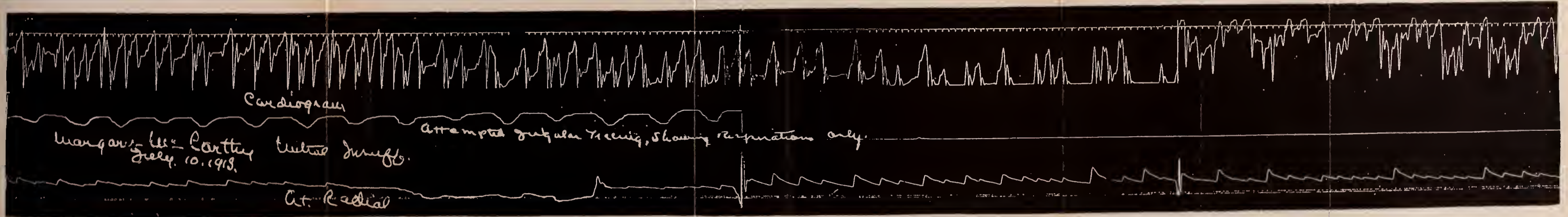








C.10



C.11



Handwritten text in a cursive script, likely Urdu or Persian, on a rectangular piece of paper. The text is arranged in several lines, with some lines appearing to be part of a larger document or letter. The script is dense and flowing, characteristic of the calligraphic style mentioned in the OCR.

Handwritten text in a cursive script, likely Urdu or Persian, on a rectangular piece of paper. The text is arranged in several lines, with some lines appearing to be part of a larger document or letter. The script is dense and flowing, characteristic of the calligraphic style mentioned in the OCR.

push the apex aside and backwards; a portion of the right ventricle wall representing the apex. In such a case the apical cardiogram may show the characteristics of a mid-precordial cardiogram, or a combination, in varying degree, of the two cardiograms. In cases where the tension in the aorta is low, the cardiogram may consist of an abrupt rise and fall; while in cases where the tension is high, or the aorta inelastic, or the aortic orifice obstructed, the cardiogram may show slowly rising and falling lines, either straight or notched. In cases where there is a decided mitral regurgitation, the leak of blood escaping in jerks may cause a rapidly intermitting rise and fall of pressure in the aorta and consequent notches and waves in the crest of the cardiogram.

Finally when the apex beat is powerful and is limited to a small point in an intercostal space the violent blow which it gives the receiver may cause many secondary waves due to the elasticity of the instrument. The greater the amplitude of the tracing, the greater are these secondary waves. This is shown in tracings Nos. C-10 and C-11, taken from cases of valvular disease; in C-10 with slightly, in C-11 with badly, broken compensation. In spite of these vibrations the fundamental character of the curves persists.

In all the cases mentioned above, so many other factors enter into each case that the variations in the form of the curve caused by the ventricular systole have no decided diagnostic value and the more one studies cardiograms the more certainly one comes back to the statement made at the opening of this discussion that, however interesting its study may be, the cardiogram "is of value in a polygram only in so far as it marks the time of the ventricular systole."

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## THE CAUSES OF RENAL PAIN.

*Read before the Annual Meeting of the Fourth District Branch of the Medical Society of the State of New York at Fort Edward, N. Y., October 14, 1913.*

By E. MACD. STANTON, M.D., F. A. C. S.,  
*Schenectady, N. Y.*

It is not my intention in this paper to discuss the symptomatology of renal pain—a subject which has been under discussion since before the days of medical societies, but it is with the

pathological conditions capable of causing renal pain and the incidence of pain in these several conditions that I intend to deal. The general characteristics of renal pain are too well known to require enumeration before a meeting of this character and yet it is only within very recent years that we have been able to study the subjective symptoms in the light of anything like an accurate knowledge of the pathological conditions causing the symptoms. As a result of the recent progress in urological diagnosis which has made it possible to determine with almost mathematical accuracy the several morbid conditions commonly associated with renal pain, we are to-day in a position to compare the symptoms with the living pathology in each case. As a result of data obtained in this way some of our older ideas on the subject have been confirmed, others we have had to modify.

In order that we may have a clear understanding of the subject under discussion it is of fundamental importance that we have an accurate knowledge of the kind of stimuli that are capable of exciting pain in the upper urinary tract. I believe that a lack of appreciation of the fact that the viscera supplied by the sympathetic nervous system are sensitive to an entirely different class of stimuli as compared with the stimuli capable of causing pain in structures supplied by the central nervous system is responsible for much of the confusion concerning the relation of pain to diseases of the abdominal viscera. A number of recent investigators, largely as a result of observations made while operating under local anaesthesia, would have us believe that the kidney and ureter as well as other internal viscera have little sensibility in themselves, but the mere fact that these organs may be subjected to the action of intense chemical and mechanical stimuli without in the slightest degree causing pain is proof only of the fact that knowledge gained from the study of pain in peripheral structures is not as a rule applicable to the study of visceral pain. The skin, for example, is but slightly sensitive to light yet intense light may cause most exquisite pain when projected on the retina and, under certain abnormal conditions, even ordinary daylight may cause pain in the eye. As a rule, we will find that the stimuli capable of causing pain in an organ are those that resemble the natural accidents which

are liable to befall the organ in question. Thus, sudden over-distension of any one of the hollow viscera is capable of causing colic; likewise, stimuli which cause over-active peristalsis with or without obstruction, are capable of causing cramps or colic.

As you all know there are two very different varieties of pain associated with diseases of the upper urinary tract. In actual practice it is impossible to draw a hard and sharp line separating these varieties, yet the extremes are widely apart. There is at one end the typical renal colic with its excruciating, violent and radiating pains, at the other there is the fixed pain which in its turn may be dull and vague or sharp and intense.

Colic in the intestines is encountered under diverse conditions. It may be caused by certain medicines, foods, indigestible bodies, or irritating substances. Constipation with the increased muscular effort necessary to propel the hardened feces is the commonest cause of intestinal pain. Foreign bodies, such as gall-stones when they become impacted during their passage through the small intestines, are the cause of intense colic; likewise, intestinal colic is caused by narrowings of the bowel of sufficient degree to require violent peristaltic action in order to force the contents past the obstruction. A sudden acute blocking of the bowel on the other hand may be unaccompanied by intermittent pain or colic.

Returning now to the kidney and its duct we find that the type of pain typified by renal colic is due to excessive contraction of the smooth muscle in the pelvis and ureter. Normally the urine does not flow passively through the ureter but is forced through the tube by peristaltic contractions. Any stimulus capable of exciting excessive uretero-pelvic contractions seems capable of causing renal colic. In the first place irritating substances either mechanical or chemical may stimulate the musculature of the pelvis and ureter to abnormal contraction. Secondly, inflammatory processes involving the ureter or pelvis may be the cause of painful spasmodic muscular contractions in these structures. Thirdly, we may have colic as the result of efforts to propel a foreign body along the ureter. Fourthly, the lumen may be obstructed by stricture, by a kink or by pressure from without.

As to the factors causing the fixed pain of renal origin we



are not so certain. Distention of the renal capsule as by acute congestion or parenchymatous swelling of the organ seems to be capable of producing this type of pain, analogous to the pain so frequently seen in passive congestion of the liver. Traction on an inflamed capsule may produce this fixed pain, and in neurasthenic enteroptotics the simple drag of the non-inflamed organ on its attachments seems capable of producing the pain.

In cases of obstruction this constant pain may exist with or without colic and is probably closely analogous to the constant pain felt in the over-distended urinary bladder between the periods of intense pain accompanying the expulsive efforts.

Unfortunately as regards diagnosis there does not seem to be any definite relationship between any particular disease and the intensity and character of the pain. Perhaps to say that colic is due to excessive muscular contraction, the result either of irritation or obstruction and that the fixed pain bears a relation to causes other than muscle spasm, is as far as we can go.

For purposes of study we may conveniently group the causes of renal pain under the following classification:

1. True Kidney Pains.

- Infarction,
- Acute and chronic nephritis,
- Renal congestion,
- Pyelo-nephrosis,
- Tumor growths,
- Nephralgia,
- Renal crises.

2. Pains caused by distention or muscle spasm along the the upper urinary tract.

- Renal colic due to pelvic and ureteral irritability without demonstrable obstruction,
- Renal calculus,
- Ureteral obstruction—intermittent hydronephrosis,
- Infections,
- Hemorrhage.

3. Malpositions.

- Dietl's crises,
- Dragging pains.



The true kidney pains are supposed to be due to acute or chronic tension upon the kidney capsule or inflammatory changes in the surrounding tissues and as such, are of the fixed type of pain as distinguished from true renal colic.

Probably the most typical example is seen in cases of unilateral septic infarcts of the kidney often spoken of in this country as Brewer's kidney.

Acute paroxysmal pain may occasionally, though rarely, accompany either acute or chronic nephritis. Usually the pain is dull and continuous but occasionally it may be paroxysmal and intense and these pains may be unilateral in spite of the symmetry in the pathological process.

The dull ache of renal congestion is well known to all; too well known, I fear, for it is a rare condition much abused by careless diagnosticians.

Pyelo-nephrosis is frequently the cause of the fixed type of renal pain, and as the lesion itself is usually the result of obstruction colic is also frequently present in these cases. In pyelo-nephritis and septic infections of the upper urinary tract it is not the pain but the absence of pain which I would wish to emphasize. Kapsammer tells us that out of 550 cases of pyelitis and pyelo-nephritis coming to autopsy at the Wiener allgemeine Krankenhaus (1893-1902) only 38, or less than one out of each fourteen cases, were diagnosed before death. This is probably approximately the proportion of cases presenting noteworthy pain symptoms referable to the kidney.

Tumors of the kidney frequently produce early intracapsular tension pain while true colic may be present in case of hemorrhage provided the musculature of the pelvis has not been destroyed.

Nephralgia as a diagnosis is a term which should be used only as an equivalent to saying that we cannot find a definite cause for the pain.

Renal crises analogous to the gastric crises in tabes are very rare yet in cases of paroxysmal renal pain of doubtful origin we should remember the possibility of tabes or other lesions of the central nervous system.

From a diagnostic standpoint the group of renal colic cases without calculus and without demonstrable obstruction as shown

by pyelography and other methods of study have been of particular interest to me. Accurate data are as yet too meagre to allow of any detailed classification of these cases. Nearly all of them are apparently the result of a hypersensitiveness or hyperirritability of the pelvis and ureter. This may be the result either of a hypersensitive nervous mechanism or the result of inflammatory conditions involving the ureter or pelvis either directly or by extension from some other organ.

In one subgroup we have individuals suffering from undoubted attacks of renal colic in whom the urine is negative, the bladder is negative and the ureteral exploration is negative, but almost any irritation, even the slow injection by gravity of a quantity of collargol solution amounting to not over half the capacity of the renal pelvis, will set up typical colic. These patients are usually of the class known as neurasthenics. I believe we would describe them better were we to call them "hypersensitives," for their urinary tracts are certainly sensitive to stimuli incapable of producing pain in other individuals, and what is very interesting in this connection is the fact that it is possible to produce their pain at will by stimuli of which the patient can have no conscious knowledge.

In another very considerable group we have evidence of colon bacillus bacteriuria without suppuration, without cystitis and pyelography shows a normal pelvis. These cases are cured when the bacteriuria is cured.

Next we have a group showing well marked chronic or acute trigonal cystitis with a sensitive lower ureter but normal urine from the ureteral catheters and normal pelvic shadows. These cases respond promptly to appropriate local treatment.

It is well known that in cases of chronic prostatitis and prostatic hypertrophy there may, at times, be attacks closely simulating renal colic. This is usually accounted for by supposing that under certain circumstances the painful stimuli arising in the prostate may be transmitted to the lower dorsal segments having nerve connections with the prostate and thus simulate renal pain. My own observations would lead me to have some doubt regarding the correctness of this hypothesis because in those cases I have examined with the cystoscope I have always found the inflammatory process extending to and involving the

lower ureter on the side affected. I have also seen similar renal colic in the female when the lower end of the ureter was involved from a pelvic inflammation.

I have dwelt somewhat at length on the non-surgical cases of renal colic because they are extremely troublesome cases in ordinary practice yet they yield splendid results when studied and treated by modern methods.

As regards calculi as a cause of renal pain you are all familiar with the rôle they play in the production of renal colic. In this connection it is very important, however, to remember that typical renal colic is not necessary for the diagnosis of stone. We may have stones causing widespread destruction of the kidney with little or no pain or we may have pain in the testicle on the affected side with no local symptoms in the region of the kidney.

It was not many years ago that renal colic was supposed to mean stone and the mere thought of renal pain brings to us a more or less hazy mental picture of a stone blocking the upper end of the ureter or possibly being forced through the tube either by the urine dammed up behind it or by the peristaltic action of the ureter itself. Surgery, however, soon demonstrated that stones were not to be found in approximately half the cases of renal colic severe enough to warrant operation; hence, the early popularity of the X-ray as an aid to diagnosis in these cases. Later the Roentgenologists found that the most typical cases of renal colic were, if anything, less likely to show calculi.

Some idea of how easy it is to overlook renal calculi is well shown by Kapsammers' statistics which show that out of 73 cases of renal calculus coming to autopsy at the Wiener Allgemeine Krankenhaus (1893-1902) in only four cases, or in less than one out of each eighteen cases, were symptoms such as to lead to a diagnosis of renal calculus before death. Yet renal calculi are always a menace not only to health but especially to longevity and there is no excuse to-day for letting these patients die under a diagnosis of Bright's disease or chronic pyelitis. Two very common errors are made concerning the diagnosis of renal stone. First of these is the tendency to believe that nearly all cases of severe renal pain are due to stone;

the other, is the failure to suspect stone in cases without histories of renal colic.

Non-calculus ureteral obstruction is a frequent cause of renal pain especially if the obstruction be of the type causing the so-called intermittent hydro-nephrosis. In these cases the more intense pain is liable to accompany the lesser grades of hydro-nephrosis. With the development of the higher grades of distention the renal pelvis seems to lose its power of spasmodic contraction and colic gives place to the constant pain of over-distention or the discomfort may be limited to the drag of the abnormally heavy organ on its attachments.

Sudden complete occlusion of the ureter, as when accidentally ligated during operation, is often painless. The commonest single cause of non-calculus ureteral obstruction is the gradually developing occlusion produced by carcinoma of the cervix and other malignant tumors and it is only very rarely that this gradually developing non-intermitting type of ureteral obstruction is the cause of any pain although it is frequently the direct cause of death in these patients.

Early renal tuberculosis is frequently accompanied by well marked pain probably usually the result of hyper-irritability of the ureter although most authors believe that obstruction, the result of tuberculosis of the ureter, is the cause of the pain. Fixed pain is also seen in tubercular as well as non-tubercular pyelo-nephrosis.

Colicky pain frequently accompanies all of the purulent infections of the upper urinary tract and is probably the result of temporary complete obstruction. I have already mentioned the fact that it is by no means as frequent in the presence of these infections as is generally supposed.

Renal hemorrhage accompanied by the formation of clots in the pelvis or ureter is usually accompanied by colic provided the musculature of the renal pelvis has not been destroyed by the pathological process responsible for the hemorrhage.

Pain caused by malpositions of the kidney is usually of a dragging character and due to the pull of the organ upon its attachments.

As already stated the hypersensitive enteroptotics, comprising



the typical movable kidney cases, are prone to have colic without presenting any evidence of hydro-nephrosis.

Hydro-nephrosis in the presence of movable kidney is usually due to periodic kinking of the pelvis or ureter over aberrant blood vessels.

In my experience true Dietl's crises have been very rare and I believe that this opinion is concurred in by most of those applying modern diagnostic methods to cases of renal pain.

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### Editorial

Diverging then from the immediate theme after the manner of enthusiasts, the reverend teacher proceeded thus:

"Know, young man, that two schools of art contend at this moment throughout Europe. The Arabian, whose ancient oracles are Avicenna, Rhazes, Albucasis; and its revivers are Chauliac and Laufranc; and the Greek school, whose modern champions are Bessarion, Platinus, and Marsilius Ficinus, but whose pristine doctors were medicines very oracles, Phœbus, Chiron, Æsculapius, and his sons Podalinusgud Machaon, Pythagoras, Democritus, Praxagoras, who invented the arteries, and Dioctes, *qui primus urinae animum dedit*. All these taught orally. Then came Hippocrates, the eighteenth from Æsculapius, and of him we have manuscripts; to him we owe 'the vital principle.' He also invented the bandage, and tapped for water on the chest; and above all he dissected; yet only quadrupeds, for the brutal prejudices of the pagan vulgar withheld the human body from the knife of science. Him followed Aristotle, who gave us the aorta, the largest blood-vessel in the human body."

"Surely, sir, the Almighty gave us all that is in our bodies, and not Aristotle, nor any Grecian man," objected Gerard humbly.

"Child! of course He gave us the thing; but Aristotle did more, he gave us the name of the thing. But young men will still be talking. The next great light was Galen; he studied at Alexandria, then the home of science. He, justly malcontent with quadrupeds, dissected apes, as coming nearer to man, and bled like a Trojan. Then came Theophilus, who gave us the nerves, the lacteal vessels, and the pia mater."

*The Cloister and the Hearth.*

CHARLES READE.

Cesarean Section. In the *American Journal Obstetrics* (December, 1913), Dr. Asa B. Davis reports the result of a study of a consecutive series of cases in which he justifies the views he has long held.

In thirteen years he has performed 193 sections with a maternal mortality of nine and eight-tenths per cent, that of the first one hundred cases being fifteen per cent. Over one-half the deaths have been due to sepsis, not infrequently acquired through examination and instrumentation prior to operation; four deaths followed section for desperate eclamptic conditions. The foetal mortality has been sixteen and nine-tenths per cent, over one-half being among premature children dying because of the maternal conditions that made delivery imperative, *e. g.*, hemorrhage and eclampsia; the remainder is made up of the still-born.

In addition to the commonly acknowledged indications for section, the author has operated with success when the child has been unduly large, for accidental hemorrhage, in impacted face presentations, for the inertia following ventro-suspension, for tonic uterus, and for placenta previa in the presence of active hemorrhage, a viable child and an undilated cervix. The maternal mortality in cases of eclampsia has been high, namely, twenty-six and seven-tenths per cent. Twice the operation was performed with success for prolapsed cord; in each case the cervix was long and only partially dilated. "It is doubtful if any form of vaginal delivery would have saved these children." When the interests of the child alone are considered, the value of antemortem Cesarean Section upon the moribund mother is apparent.

In three cases, rupture of the uterus at subsequent labor has occurred. The first case ruptured in the thinned lower uterine segment; in the second, the rupture was small and at the lower angle of the incision; in the third and fatal case, the rupture was extensive and took place directly through the fundus, where the earlier incision, because of spinal deformity and consequent anterior displacement of the uterus, of necessity had been made. To obviate the danger mentioned, great care in closing the incision should be exercised and spontaneous labor in future preg-

nancies never awaited but section performed shortly before or at its onset.

The author insists that the skilful operation, when indicated, not only entails little risk but gives promise of great usefulness in decreasing the still-high obstetric morbidity. This view is held and vigorously asserted in spite of the frequent criticism that a desire to establish a record in operative cases prompts the author's ardent advocacy of the operation.

The operation advised by the author may be summarized as follows: Incision into the uterus is carefully made, the organ being steadied by an assistant and brought up to but not through the abdominal incision which is directed upward from the umbilicus; membranes and placenta are separated manually from the uterine walls; the former then are ruptured, pads preventing the escape of liquor amnii and blood into the abdominal cavity; the child is delivered by breech extraction through the uterine incision of six or eight centimeters; sutures placed at either end of the incision make it possible gently to raise the uterus and remove placenta and membranes; the incision is closed with a deep, interrupted layer of number two chromic gut through peritoneum and muscle, and a continuous layer of number one chromic gut drawing the peritoneum over the deeper layer and completely burying the same. The usual method of closing the abdominal wound is employed and the customary post-operative care given.

PAUL T. HARPER.

## Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, NOVEMBER, 1913.

### *Deaths.*

Consumption. . . . .	9
Typhoid fever . . . . .	0
Scarlet fever . . . . .	0
Measles. . . . .	0
Whooping-cough. . . . .	3
Diphtheria and croup. . . . .	4
Grippe. . . . .	1
Diarrheal diseases . . . . .	2

Pneumonia. . . . .	10
Broncho-pneumonia. . . . .	4
Bright's disease . . . . .	7
Apoplexy. . . . .	4
Cancer. . . . .	7
Accidents and violence. . . . .	12
Deaths over 70 years. . . . .	28
Deaths under 1 year. . . . .	17

Total deaths . . . . .	124
Death rate . . . . .	15.07
Death rate less non-residents. . . . .	12.28

*Deaths in Institutions.*

	Resident.	Non-Resident.
Albany Hospital . . . . .	11	6
Child's Hospital . . . . .	1	0
County House . . . . .	0	1
Homeopathic Hospital . . . . .	2	1
Hospital for Incurables. . . . .	1	0
Little Sisters of the Poor. . . . .	2	0
Penitentiary. . . . .	0	0
Public Places . . . . .	5	2
St. Margaret's House. . . . .	2	3
St. Peter's Hospital. . . . .	6	5
Austin Maternity Hospital. . . . .	3	2
Albany Hospital, Tuberculosis Pavilion. . . . .	0	1
Labor Pavilion . . . . .	0	0
	<hr/> 33	<hr/> 21
Births. . . . .	125	
Still births . . . . .	11	
Premature births . . . . .	4	

## REPORT OF VISITING TUBERCULOSIS NURSE.

Number of cases remaining. . . . .	67
Number of new cases. . . . .	11
Cases returned from hospital. . . . .	1
	<hr/>
Total. . . . .	79
Disposition of old and new cases:	
Died. . . . .	7
Sent to hospital. . . . .	6
Left city . . . . .	1
Cured. . . . .	1
Remaining under treatment. . . . .	64
	<hr/>
Total. . . . .	79
Number of visits made. . . . .	405



## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. . . . .	10
Negative. . . . .	30

Total. . . . .	40
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Living cases on record November 1, 1913. . . . .	313
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## Cases reported:

By card . . . . .	17
Dead cases by certificate. . . . .	3
	<hr/> 20

Total. . . . .	333
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Dead cases previously reported. . . . .	6
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Dead cases not previously reported. . . . .	3
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Removed. . . . .	4
	<hr/> 13

Living cases on record December 1, 1913. . . . .	320
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Total tuberculosis death certificates filed during November. . .	9
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## Out of town cases dying in Albany:

Albany Hospital Camp. . . . .	1
Albany Hospital . . . . .	1
County Hospital . . . . .	1
	<hr/> 3

City tuberculosis deaths. . . . .	6
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## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever . . . . .	3
Scarlet fever . . . . .	4
Diphtheria and croup. . . . .	33
Chickenpox. . . . .	13
Smallpox. . . . .	0
Measles. . . . .	4
Whooping-cough. . . . .	5
Consumption. . . . .	16

Total. . . . .	78
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*Contagious Disease in Relation to Public Schools.*

	Reported
	D. S. F.
Public School No. 1. . . . .	1 . . . .
Public School No. 11. . . . .	1 . . . .
Public School No. 12. . . . .	3 . . . .

Public School No. 15.....	I	....
Public School No. 16.....	I	....
Public School No. 21.....	I	....
Lady of Angels School.....	I	....
Albany Female Academy.....	I	....
St. Ann's School.....	3	....

Number of days quarantine for diphtheria:

Longest..... 20      Shortest..... 4      Average..... 10 6/11

Number of days quarantine for scarlet fever:

Longest..... 13      Shortest..... 10      Average..... 11 1/2

Fumigations:

Houses..... 53      Rooms..... 146

Cases of diphtheria reported..... 33

Cases of diphtheria in which antitoxin was used..... 32

Cases in which antitoxin was not used..... 1

Deaths after use of antitoxin..... 3

#### BUREAU OF PATHOLOGY.

##### *Bender Laboratory Report on Diphtheria.*

Initial positive. . . . .	29
Initial negative. . . . .	197
Release positive. . . . .	17
Release negative. . . . .	84
Failed. . . . .	18
Total. . . . .	345

##### *Test of Sputum for Tuberculosis.*

Initial positive. . . . .	8
Initial negative. . . . .	28
Total. . . . .	36

#### BUREAU OF MARKETS AND MILK.

Public market inspections.....	18
Market reinspections . . . . .	39
Fish market inspections.....	1
Milk depots inspected.....	18
Milk depots deficient.....	2
Stores inspected . . . . .	184
Stores deficient . . . . .	13
Milk wagons inspected.....	101
Milk wagons deficient.....	12
Milk cans inspected.....	106
Unclean cans . . . . .	18

Ice cream factories inspected.....	5
Ice cream factories deficient.....	3
Lactometer tests .....	134
Temperature tests .....	134
Fat tests .....	17
Below standard .....	2
Chemical tests .....	9
Negative. . . . .	9
Sediment tests .....	16
Sediment found .....	15
Milk condemned (quarts).....	40
Violations. . . . .	9
Notices served .....	9
Commission houses inspected.....	5

MISCELLANEOUS.

Work certificates issued to children.....	20
Number of written complaints of nuisances.....	69
Privy vaults .....	8
Closets. . . . .	7
Plumbing. . . . .	5
Other miscellaneous complaints.....	49
Cases assigned to health physicians.....	72
Calls made .....	170
Number of dead animals removed.....	323

## Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR NOVEMBER, 1913.—Number of new cases, 189; classified as follows: Dispensary patients receiving home care, 17; district cases reported by health physicians, 4; charity cases reported by other physicians, 65; moderate income patients, 84; metropolitan patients, 19; old cases still under treatment, 100; total number of cases under nursing care during month, 289. Classification of diseases for the new cases; Medical, 27; surgical, 10; gynecological, 2; obstetrical under professional care, mothers 56, infants 58; infectious diseases in the medical list, 36. Disposition: Removed to hospitals, 15; deaths, 12; discharged cured, 104; improved, 27; unimproved, 5; number of patients still remaining under care, 126.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 5; nurses in attendance, 5; patients carried over from last month, 0; new patients during month, 6; patients discharged, 6; visits by head obstetrician, 6; by attending obstetrician,

o; by students, 55; by nurses, 67; total number of visits for this department, 128.

*Visits of Nurses* (all departments).—Number of visits with nursing treatment, 1,436; for professional supervision of convalescents, 651; total number of visits, 2,087; visits to pay patients, 596; to charity patients, 1,491; cases reported to the Guild by 2 health physicians, and 37 other physicians; graduate nurses 5 and pupil nurses 7 on duty; certified nurses, 3.

*Dispensary Report*.—Number of clinics held, 92; new patients, 165; old patients, 370; total number of patients treated during month, 535. Classification of clinics held: Surgical, 13; nose and throat, 8; eye and ear, 15; skin and genito-urinary, 8; medical, 12; lung, 13; dental, 0; nervous, 0; stomach, 2; children, 12; gynecological, 9.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—A regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College, Wednesday, December 17, 1913, at 8.30 P. M. The following program was presented: "The Parotid Gland; Its Surgery and Pathology," Dr. G. G. Lempe; "Atypical Diphtheria," Dr. E. E. Hinman.

MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.—The annual meeting of the Medical Society of the County of Rensselaer was held at the Court House, Troy, N. Y., December 10, at 8.30 P. M. The following program was presented: "How to Improve Our Medical Society," Dr. William F. Campbell, President of the Medical Society of the State of New York; "Intra Thoracic Resection of the Esophagus Carcinoma," Dr. Willy Meyer; "Venous Pulse," Dr. Henry Hun.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—The annual meeting of the Medical Society of the County of Schenectady was held at the Mohawk Golf Club, Tuesday evening, December 9, 1913, at 8.30 P. M. Scientific program: "Some Points in the Consideration of Cancer," Dr. F. C. Reed.

CONFERENCE OF SANITARY OFFICERS.—The election of officers featured the closing session of the New York State Sanitary Officers' 13th Annual Conference. Dr. Otto Pfaff, mayor of Oneida, was chosen president and the other officers are: Secretary, Dr. A. B. Santrey, Little Falls; treasurer, Dr. George F. Mills; vice-presidents, Dr. G. S. Towne, Saratoga, Dr. C. R. Mahady, Rome, Dr. W. S. Wilson, Poughkeepsie and Dr. J. S. Dalton.

SARATOGA COUNTY DOCTORS HAVE A BANQUET.—About thirty physicians from Saratoga County met at Luzerne, October 2 and observed the annual meeting and banquet of the Saratoga County Medical Society. The election of officers resulted as follows: Dr. E. C. Gow, of Schuylerville, president; Dr. Zeh of Waterford, vice-president; Dr. J. T. Sweetman of Ballston Spa, secretary; Dr. C. E. Bullard of Schuylerville, treasurer.



**MEDICAL SOCIETY OF THE COUNTY OF SCHOHARIE.**—The annual meeting of the Schoharie County Medical Society was held at Cobleskill, Tuesday, December 5th.

**ATTORNEY GENERAL CARMODY INTERPRETS THE NEW COCAINE LAW.**—In response to inquiries received from physicians in various parts of the State, Attorney General Carmody has rendered an opinion interpreting the provisions of the law enacted by the Legislature this year, designed to control the sale and possession of cocaine and its products.

Mr. Carmody holds that a physician administering to his patients for the purpose of operations cocaine which came lawfully into his possession is not required to furnish the certificate prescribed in paragraph (a) of section 1746 of the penal law, stating the name of the vendee, the name and address of the seller, the name and address of the physician prescribing the drug, the date of sale and the amount sold. Such a certificate is required when the physician dispenses the drug to his patients in the sense in which drugs are dispensed by pharmacists. The doctor, however, must in such a case comply with paragraph (j) viz: Enter in a book kept for that purpose a record of all cocaine disposed of by him.

**TO STUDY MEDICAL LAWS.**—The American Association of Medical Jurisprudence was incorporated on December 5 by the Secretary of State. The object of the Association is the investigation and advancement of the science of medical jurisprudence. The study will be conducted principally in the State of New York and the United States of America.

**UNITED STATES CIVIL SERVICE EXAMINATION.**—The United States Civil Service Commission announces an open competitive examination for anatomist, for men only, on January 7, 1914, at the places mentioned in the list printed hereon. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position at \$1,600 a year, in the Army Medical Museum, Office of the Surgeon General, and vacancies requiring similar qualifications as they may occur, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Competitors will be examined in the following subjects, which will have the relative weights indicated:

Subjects.	Weights.
1. Normal histology and physiology.....	20
2. Pathologic histology .....	20
3. Gross pathology (including preparation of museum specimens) ..	20
4. Bacteriology (including care and use of microscope).....	20
5. Photomicrography. . . . .	5
6. Training and experience.....	15
Total.....	100

Applicants must have reached their twentieth but not their thirty-fifth birthday on the date of the examination.

Men only will be admitted to this examination.

It is desired that the person appointed to this position shall be young, in good health, a graduate in medicine, have a thorough knowledge of pathologic histology, pathology, and bacteriology, be capable of making photomicrographs, understand microscopes, surgical instruments and appliances, and be able to prepare, card, and keep in order museum specimens.

Statements as to training and experience are accepted subject to verification.

In accordance with a recent act of Congress, an applicant for this examination will be required to be examined in the State or Territory in which he resides and to show in his application that he has been actually domiciled in such State or Territory for at least one year previous to the date of the examination.

This examination is open to all male citizens of the United States who meet the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Persons who meet the requirements and desire this examination should at once apply to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners, at any place mentioned in the list printed hereon, for application Form 1312. No application will be accepted unless properly executed, including the medical certificate, and filed with the Commission at Washington in time to arrange for the examination at the place selected by the applicant. In applying for this examination the exact title as given at the head of this announcement should be used.

**ARMY MEDICAL CORPS EXAMINATION.**—The Surgeon General of the Army announces that preliminary examinations for appointment of First Lieutenants in the Army Medical Corps will be held on January 19, 1914, at points to be hereafter designated.

The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations, applications must be completed and in the possession of the Adjutant

General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present twenty-six vacancies in the Medical Corps of the Army.

UNITED STATES CIVIL SERVICE EXAMINATION.—The United States Civil Service Commission announces an open competitive examination for medical assistant, for men only. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position in the Bureau of Chemistry, Department of Agriculture, Washington, D. C., at \$1,800 a year, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of this position will be to study the claims and representations made in conjunction with proprietary remedies, look up medical literature, assist in preparing cases, etc., under the Food and Drugs Act. A knowledge of French and German is desirable.

Competitors will not be assembled for examination, but will be rated on the following subjects, which will have the relative weights indicated.

Subjects.	Weights.
1. General education and medical training.....	35
2. Practical or professional experience and fitness.....	45
3. Publications or thesis.....	20
Total.....	100

Graduation from a medical school of recognized standing and at least three years' subsequent experience in the practice of medicine, or two years' subsequent experience in either pharmacological investigations or the actual examination of drug products with reference to the claims made therefor by manufacturers, are prerequisites for consideration for this position.

If a thesis is submitted under subject 3 it must present the results of original investigational work on the part of the applicant in some phase of medicine or pharmacology.

Statements as to training, experience, and fitness are accepted subject to verification.

Applicants must have reached their twenty-fifth but not their forty-fifth birthday on the date of the examination.

Under an act of Congress applicants for this examination must have been actually domiciled in the State or Territory in which they reside for at least one year previous to the date of the examination.

This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for application Form 304, and special form, to the United States Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Post Office, Boston,

Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Cal.; Customhouse, New York, N. Y., New Orleans, La., Honolulu, Hawaii; Old Customhouse, St. Louis, Mo.; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R. No application will be accepted unless properly executed and filed, in complete form, with the Commission at Washington prior to the hour of closing business on January 12, 1914. In applying for this examination the exact title as given at the head of this announcement should be used.

UNITED STATES DEPARTMENT OF AGRICULTURE NOTICES.—*Bouillon Cubes Not Concentrated Meat Essence*.—According to analysis of these cubes, common salt constitutes from 49 to 72% of the total weight, the amount of meat extract ranges from 8% in the poorest brands to but 28% in the very best. The third important ingredient is plant or vegetable extract which constitutes from 3 to 30%.

The Department's meat chemist has carefully analyzed semi-solid meat extracts, fluid meat extracts, and commercial meat juice, which are offered on the market to the American public, in addition to the bouillon cubes. He has also conducted experiments in making home-made beef broth and meat and vegetable soup. A compilation of the relative costs of commercial and home-made meat preparations has resulted in the following table:

Substance.	Ounces of meat extract obtained for 10 cents.
Best grade bouillon cubes.....	1/8
Cheapest grade bouillon cubes.....	1/12
Best grade semi-solid meat extract.....	1/4
Cheapest grade semi-solid meat extract.....	1/3
Best grade fluid meat extract.....	1/5
Cheapest grade fluid meat extract.....	1/5
Commercial meat juice.....	1/10
Home-made beef broth.....	1/6
Home-made meat and vegetable soup.....	1/2

Both the bouillon cubes and the meat extracts are stimulants and flavoring agents, but have only a slight food value and are more expensive than home-made soups. While an actual cup of bouillon prepared from a cube costs only one or two cents and the same sized cup of home-made meat broth costs approximately 4 1/3 cents, the former is largely salt and water without the high food value that the latter might have particularly for children and invalids.

*A Recipe for Meat and Vegetable Soup*.—The bulletin recommends a wholesome meat and vegetable soup which will furnish enough for a family of five, at a cost of approximately 16 cents. This may be made according to the following recipe:



## Ingredients.

## Approximate Cost.

(Price actually paid by Dept. Chemist.)

One soup bone, weighing about 24 ounces ( $\frac{1}{3}$  meat).....10 cents

After being washed it should be placed in a large kettle with three pints of cold water and heated for three hours when the bone and meat should be removed.

$\frac{1}{4}$  of a small head of cabbage, one onion, one carrot, one large potato, two small tomatoes, a little flour, seasoning..... 6 cents

Chop these vegetables and add to the soup. Boil the mixture for one hour, thicken slightly with a little flour and season with salt and pepper.

The home-made soup made according to the above recipe contains in addition to meat extractives, gelatin from the bone, some of the food elements in the vegetables, and a large proportion of the fat and meat of the bone.

*Faults in Systems of Milk Inspections.*—Address by Ernest Kelly of the Market Milk Investigations, Department of Agriculture.

*Lack of Uniformity in Milk Requirements.*—What is the most efficient system of milk inspection and how may it be installed and maintained? A novice will find that one city requires pasteurization, while another does not; that one city allows a bacteria count of 500,000, while another has a limit of 100,000; that this city requires four per cent fat, that one only 3 per cent, and so on. In collecting data along this line last year, I found the following surprising variations. Standards for bacteria ran all the way from 25,000 up to 1,000,000 per cubic centimeter. 500,000 per c. c. seemed to be the most popular, thirty-three cities out of sixty-six reporting this figure.

Fat standards ranged from 3 per cent to  $3\frac{3}{4}$  per cent, fifty-one cities out of one hundred and twenty-two requiring the smaller amount. Total solids showed an even greater variation, running from 10.62 per cent up to 13 per cent.

No sane minded person would claim that three per cent milk is more valuable as a food in Boston than it is in San Francisco, or that milk containing 400,000 bacteria is harmless in Florida and poisonous in Maine.

*Less than a Carfare for Milk Inspection.*—To carry on this important work, the average city is poorly equipped. Pitifully small sums are appropriated by city councils and State Legislatures to push this campaign of education. Last year I received from one hundred and sixty-two cities letters giving the amounts spent for dairy and milk inspection. These figures include country and city inspections, the taking of samples, laboratory work, supervisory and clerical work, in fact every item connected with milk inspection. Twenty-two cities reported that they spent absolutely nothing for such work. One city spent one-tenth of a cent per capita per year, while the highest reported was a little town in Georgia which spent nineteen cents per capita, per

year. Only forty-three of the one hundred and sixty-two cities spent five cents or more per capita and the average in cities spending anything at all was only 4.14 cents per capita. per year. Each individual spends less than one car fare, or the cost of a glass of soda, every year, to protect the most important food in the world. Is it surprising that so little interest is manifested by the average consumer?

*Milk Inspectors Poorly Paid.*—In many places, the position of milk inspector is so poorly paid that it attracts only political ward heelers, hungry for any crumb from the loaf of the commonwealth. I wish to say most emphatically that there must be a radical change in the manner of appointing milk inspectors throughout the country, before the highest degree of efficiency can be attained. Political domination must cease in public health work; the hands of the life-saver must be free if he is to battle successfully with the waves. Not all appointed inspectors are unfit, by any means; many of them are efficient and conscientious, but the general system is wrong for two reasons: First, it allows the selection of men without any regard for their fitness, and second, it usually means short terms, so that new men are constantly taking up the work, creating a state of chaos by the introduction of different systems and ideas.

Dairy and milk inspectors should be most carefully selected. They should combine at least four qualifications; knowledge of sanitation, knowledge of dairy practises, common sense and tact. Armed with these weapons, they are fully equipped to conquer the hosts of ignorance and prejudice.

*Needed Laws.*—The laws that are enacted should measure up to certain standards: First, they should be uniform. Laws should be simple. Laws should be enforceable. Lastly, laws should be just and necessary.

*Bacterial Count not Complete Safeguard.*—There are many adherents to the belief that a bacteriological examination of milk is sufficient. I can not agree with such a view for two reasons:

First, a sanitary inspection is absolutely necessary in order that a definite knowledge may be obtained concerning sources of contamination. The character of the contamination can often be more accurately analyzed by a survey of the dairy operations than by a bacteria count alone.

Second, the farmer needs instruction in improving conditions on his farm. The report of a bacteria count will show that something is wrong, but will not point out the defective method responsible for the trouble.

Undeniably, a system of inspection is best that combines a sanitary inspection and a bacteria count, used as checks each on the other.

From a somewhat wide experience I feel very strongly that the score card is the best instrument for carrying on an efficient sanitary inspection.

*The Sediment Test.*—The sediment test I consider most valuable as a means of demonstrating carelessness in milk production. But farmers

may learn to strain their milk carefully so that it shows little sediment and still the milk may be bacteriologically very bad. Or a milk, clean in the beginning, may be so poorly refrigerated that it has a high bacteria count. Sediment is a proof of carelessness, but the absence of sediment does not by any means, mean that the milk is clean and fit for use.

*City Inspection Needed.*—In concluding, I should like to say just a word as to inspections in the city. No matter what safeguards may be thrown around the production of milk, if it is carelessly dispensed in the city, the good may all be undone. A frequent fault is to expend so much energy on country inspection that the equally important subject of city inspection is neglected.

The store milk evil is a great one at the present time. A number of cities still allow "bulk" or "loose" milk and many of them lay no restraining hand upon the filthy practices which are common to the trade. Stringent regulations and frequent inspection are needed for this particular phase of the question.

*THE HEROIN HABIT.*—Attention is also drawn to the fact that heroin is rapidly becoming a substitute for morphine and cocaine. Its use should be guarded in the same way as the other two drugs.

*ANNALS OF SURGERY.*—The December issue of the *Annals of Surgery* is devoted to Anesthesia offering many important papers including: The American Association of Anethetists, Accuracy in Anesthesia, Reflex Action During General Surgical Anesthesia, Intravenous Anesthesia, Nitrous Oxide and Oxygen Narcosis, Intratracheal Anesthesia, Deaths from Anesthesia, The Question of Anesthesia in Goitre Operations, Stovaine Spinal Analgesia in Prison Surgery, Medicolegal Aspects of Anesthesia.

*LEBANON HOSPITAL, NEW YORK CITY.*—Dr. Parker Syms will hold surgical clinics at the Lebanon Hospital, New York City, each Wednesday from November 1st to March 1st.

*PERSONALS.*—Dr. THOMAS WILSON (A. M. C. '74), and family, of Hudson, are traveling abroad.

—Dr. T. FREDERIC DOESCHER (A. M. C. '06), has opened an office at 266 Lark St., Albany, N. Y.

—Dr. ORLA A. DRUCE (A. M. C. '09), is located at 613 Central Ave., Albany, N. Y.

—Dr. JOHN F. SOUTHWELL (A. M. C. '10), is engaged in practice at 278 Lark St., Albany, N. Y.

—Dr. RALPH B. POST (A. M. C. '11), is practicing at Ravena, N. Y.

—Dr. FRANK PURCELL (A. M. C. '11), has opened an office at 929 Delemont Ave., Schenectady, N. Y.

—Dr. FRANCIS B. QUINLAN (A. M. C. '11), is engaged in active practice at Catskill, N. Y.

—Dr. FLOYD H. MOORE (A. M. C. '12), is located at Hinkley, N. Y.

DIED.—Dr. DOUGLAS AYRES (A. M. C. '65), a Fellow of the American Medical Association, once president and vice-president of the Medical Society of the State of New York, president of the Montgomery County Medical Society, for many years president of the Board of Education of Fort Plain, died at his home November 20, from myocarditis, aged 71.

—Dr. PHILIP T. O'BRIEN (A. M. C. '72), for several years a member of the Board of Selectmen and the town school committee of Plymouth, Mass., died at his home in Plymouth, October 31, from cerebral hemorrhage, aged 64.

—Dr. DENNIS M. SMITH (A. M. C. '88), died at Cambridge, N. Y., October 5, 1913, aged 66.

—Dr. FRANK J. CRUMMEY (A. M. C. '95), died at Los Angeles, Cal., December 17, 1913.

## In Memoriam

DOUGLAS AYRES, M. D.

Dr. DOUGLAS AYRES of Fort Plain, Montgomery County, N. Y., died of myocarditis November 20, 1913. He had been ill for the past two years, seriously since last March, but not taking his bed until the Monday preceding his death.

The medical history of the County of Montgomery for the past century is contemporaneous with the Ayres family that has had a representative in the active practice of medicine and surgery in the County of Montgomery, N. Y., since the year 1820. Dr. Douglas Ayres, the subject of this sketch was a lineal descendant of Capt. John Ayres who settled at Ipswich, Mass., in 1648, and his great grandfather, Jabez Ayres, was a soldier of the Revolution, stationed in the winter of 1778 at Bound Brook, N. J. Illustrative of the medical education of the period, it is of passing interest to note that the father of Dr. Douglas Ayres was Alexander Ayres, born in Montgomery County in 1811, teaching school at the age of nineteen in Little Falls and East Creek; beginning the study of medicine in 1833 with an uncle, Daniel Ayres, who followed his profession at East Creek and Amsterdam; attending two courses of lectures at Fairfield, Herkimer County and finally graduating at the Medical College of Castleton, Vt. It is recorded that the Medical Society of Montgomery licensed him to practice surgery. He finally settled at Fort Plain and continued an active career until his death in 1886. He was a member of county and State societies and a founder of the New York State Medical Association.

With these honorable antecedents, Dr. Douglas Ayres was born at East Creek August 20th, 1842. He was educated in a select school at



Greene, Chenango County, where he remained two years. He was then for two years more at the old Fort Plain Seminary. For the next three years he studied at Fairfield Academy. He began the study of medicine with his father at Fort Plain, entered the Albany Medical College in 1861 and graduated there in 1865. He commenced the practice of medicine the same year in Fort Plain, but in 1870 formed a partnership with his father that continued until the death of the latter at the age of 75, in 1886. Like his father, he was a member of the New York State Medical Association, having served as president.

He one time stated that he had pretty nearly traveled over the United States while attending the annual meetings of the American Medical Association. He was equally dutiful in regard to State and county societies.

Dr. Ayres was senior warden of the local Episcopal Church. For twenty years he was on the Board of Education at Fort Plain, and its president at the time of his death. He was made a mason in 1866 and long served as a trustee. He was a Democrat of the old school.

Dr. Ayres was married in 1898 to Miss Anna Marston of Minneapolis, Minn., who with a son Douglas, aged eleven years, survives. On the day of his birth, he was enrolled by his father at St. Paul's School. It was a characteristic act, no doubt foreshadowing an elaborate scheme for the thorough education of his son.

Dr. Ayres was a splendid type of the family physician, who ministered to one community for forty-eight consecutive years in deep sympathy with its sorrows and its joys, consulted in its domestic and civic life, assuming the duties of a citizen with a quiet dignity and self-effacement that commanded the respect of all. His was a professional career, directed by a refinement of medical ethics, that cast no shadow along his path, and a fellowship that brought strength and confidence to those about him.

RESOLUTION OF THE MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY ON  
THE DEATH OF DR. DOUGLAS AYRES

The Medical Society of the County of Montgomery while it deploras the loss it has suffered by the death of Dr. Douglas Ayres, and expresses its sympathy with his family in its bereavement, at the same time places on the records of the Society an appreciation of the high character and valuable services of one of its members.

In his life he was one worthy of emulation by those who remain; as a citizen who rendered service to the public; as a physician who maintained his interest in the progress of his profession, recognizing and practicing its highest ethical standards; as a Christian gentleman who practiced what he preached while he bore his honors with dignity and modesty. In return he brought honor to those with whom he was associated.

C. E. CONGDON, M. D.,  
F. V. BROWNELL, M. D.,  
CHAS. STOVER, M. D.

## PHILIP T. O'BRIEN, M. D.

Dr. PHILIP T. O'BRIEN, an alumnus of the Albany Medical College of the Class of 1872, dropped dead of heart disease, at his home in Clinton, Mass., October 30, 1913. Dr. O'Brien had attended to his practice as usual and had just showed a patient out of his office when he was stricken.

Dr. O'Brien was born in Shrewsbury December 25, 1849. When he was seven years of age, his family moved to Worcester where he received his education. The year following his graduation from the Albany Medical College he began practice in Clinton, where he remained until his death. He was one of the leading physicians in this town. Some years ago he started St. Mary's Hospital but this has since been closed. He was well known for his generous and kind disposition. For several years he was a member of the school committee and also served on the board of selectmen and on the board of health. He was a member of A. O. H., the Eagles and was physician for several German societies.

Dr. O'Brien is survived by two sons, Rev. Charles L. O'Brien, a member of the Springfield diocesan band, and Atty. John H. O'Brien of Clinton, and one daughter, Mrs. Agnes A. McSherry, wife of Supt. Francis T. McSherry of the Holyoke public schools.

Some measure of the esteem in which Dr. O'Brien was held in the community he served so many years was shown by the large attendance of fifteen hundred people at his funeral. As a further mark of public appreciation the public schools were closed and the curtains drawn in all places of business in the centre of the town.

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## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*International Clinics.* A Quarterly of illustrated clinical lectures, specially prepared original articles on Treatment, Medicine, Surgery, the Specialties, and other topics of interest to students and practitioners by leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia. Volume 2, 23rd series, 1913. J. B. Lippincott Co., Philadelphia. Price of this book is \$2.

In perusing the pages of this volume, the reviewer was more profoundly impressed than ever by the breadth and scope of the medical literature of to-day. This volume contains not only many valuable articles pertaining to the well recognized domain of medicine, but also many others reaching out into the border land of kindred sciences and which might be rightfully denominated near-medical.

The Therapeutic Indications for Antitoxins, Serums, and Vaccines, by G. Martin Illman, Philadelphia. The writer gives a resume of the

present status of this new and important branch of therapeutics. He seemingly favors the vaccines in preference to the serums, and the autogenous ones in contradistinction to the stock preparations. Those looking for light upon this subject from a source other than that supplied by the commercial drug houses of the country will find in this article much valuable material for their consideration.

The Use of Iodine in Abdominal Surgery, Gynecology and Obstetrics, by J. Wesley Bovee, Washington, D. C. The writer advocates the use of this popular agent in the strength of three and one-half grams of the crystals to 100 c. c. of ninety-five per cent alcohol for disinfecting the skin, mucus membranes, fistulas and the peritoneum, using weaker solutions as an irrigation in large abscess cavities. Its use as an intra-uterine application in his hands has largely superseded curettage.

The Prevention of Eclampsia, by J. W. Ballantyne. This is a masterful article of a condition which occurs once in every five hundred maternity cases. The author makes a plea to investigate and study afresh the physiology and especially the biochemistry of normal pregnancy, looking to the discovery of the real relationship of this problem to pregnancy. He proposes the study of pregnancy, normal and pathological, in a maternity hospital furnished with separate wards for pregnant women. Great stress is laid upon the prevention of eclampsia, and goes into some detail regarding the signs and symptoms of the pre-eclamptic stage, attaching much value to the milk-only diet, together with means for increasing the activity of the bowels and skin. If these simple methods prove insufficient to prevent a seizure, he then employs one or more of the following six measures to be used in eclampsia itself, i.e., (1) Venesection, (2) Transfusion, (3) Stomach Washing, (4) Introduction of Magnesium Sulphate into the stomach by the tube, (5) A large enema, (6) The hot pack. He considers the induction of premature labor rarely necessary, although it may sometimes follow the treatment recommended. H. D. C.

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*Text-Book of Diseases of the Nose, Throat and Ear.* For the Use of Students and General Practitioners. By FRANCIS R. PACKARD, M. D. Professor of diseases of the nose and throat in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine; Aurist to the out-patient department of the Pennsylvania Hospital. Second edition, with 145 illustrations. Philadelphia and London, J. B. Lippincott Company.

It is a pleasure to read the author's book, mainly perhaps, because in his description of the common throat operations, such as tonsillectomy, he does not advocate the use of a large number of instruments. In many of the recent text books, such a large number of instruments are given as being necessary in performing some of the ordinary opera-

tions, that it is most confusing to the student beginning the study of this specialty.

Simplicity of description may be said to be characteristic of Dr. Packard's book, but it must not be understood by this, that any subject has been neglected. The book is up to date in every respect—the illustrations, largely original, being particularly good.

The chapter devoted to the diseases of the auricle and the external auditory canal is unusually complete—in fact more so than in most text books. Much useless detail has been omitted, and the subject has been well and concisely covered in the 359 pages—a much smaller space than is usually given to the subject in most books. This makes it a particularly good book for students.

C. F. T.

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*Genito-urinary Diagnosis and Therapy.* For urologists and general practitioners. By Doctor ERNEST PORTNER, Specialist for Urology, Berlin, Germany. Translated and edited by Bransford Lewis, M. D., B. Sc., Professor of Genito-urinary Surgery, Medical Department of St. Louis University. Forty-three illustrations. St. Louis: C. V. Mosby Company, 1913.

The author's apparent object in this book has been to present in a concise form the practical therapeutic methods which might be most commonly employed by the practitioner who intends to engage in the treatment of urinary diseases. He has not dwelt on matters of minor importance, but has considered the more important features and has endeavored to treat these features in such an explicit manner that the instructions may be easily followed.

This translation into English by Dr. Lewis should be a valuable aid to the general practitioner who is called upon to treat many of the more simple cases in genito-urinary practice. The book is confined almost entirely to a consideration of therapy and it is assumed that symptoms and diagnosis of the subject are well understood by those who use this book of reference.

The volume contains 221 pages, but it embraces a wealth of practical, valuable information, and it should prove a helping hand to the practitioner desirous of fulfilling his duty to his patients up to the sphere of specialism, and the specialist himself might find in its pages many useful hints and enlightening ideas.

G. E. B.

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*A Manual of Surgery.* For students and physicians. By FRANCIS T. STEWART, M. D., Professor of Clinical Surgery, Jefferson Medical College. Third edition, with 571 illustrations. Philadelphia, Pa.: P. Blakiston's Son & Company, 1913.

This volume contains 742 pages. The subject matter appears in 32 chapters. For a volume of its size it covers a wide field, from diagnosis, anesthesia, bacteriology, surgical technique, inflammation and suppura-



tion and many other fundamental subjects, to a pretty general consideration of the surgical diseases of the various organs and regions of the body. The text is concise and well arranged. The illustrations, while they are not profuse most of them are valuable as illustrating the text. The volume is especially recommended to students and general practitioners.

G. E. B.

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*Manual of Obstetrics.* By JOHN OSBORN POLAK, M. Sc., M. D., Professor of Obstetrics and Gynecology Long Island College Hospital, etc. 468 pages; 119 illustrations. D. Appleton & Co., New York and London, 1913.

Works of this nature are not uncommon. In them, effort is made to present, in a concise and systematic manner, the principles of obstetrics that the student may be furnished a working plan for further study and the practitioner afforded a handy reference when confronted by the necessities of the individual case.

In every respect the work measures up to the standard of the better of its kind. That the important subject of developmental defects and congenital abnormalities may be understood, it is essential that the fundamentals of human embryology be mastered. In the work at hand, fully 50 pages have been devoted to a concise and practical presentation of the essentials of development of the human embryo; in this respect, the manual is superior to others of its class and to not a few of the standard text-books.

The work is practically paragraphed and abundantly supplied with well-chosen illustrations. In its binding of black, flexible seal, lettered in gold, it is unusually attractive.

P. T. H.

## LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY

Edited by Clement F. Theisen, M. D.

*Modern Surgery of the Tonsil.*

T. H. HALSTED. *New York State Journal of Medicine*, December, 1912.

Since tonsillectomy has been adopted as the best operation, there has resulted in many cases much damage to the soft palate and the pillars, through the cicatricial contractions following the wounding of these muscles, and particularly of the posterior pillars. These accidental injuries follow mostly the use of the snare and finger in finger enucleation, and in operations done under general anesthesia, where the blood following the first incision has obscured the operation field.

This has resulted in much dissatisfaction with tonsillectomy as well as with the results in many cases. In order to avoid this, each case should be selected with great care, fitting the technic to be employed to the case to be operated on.

The writer mentions two distinct classes of tonsils to be removed: the hyperplastic tonsils which may be often submerged, although not

adherent, or but slightly so, to the pillars, occurring most commonly in children under 15 years old, and the tonsils more or less firmly adherent to the pillars with the surrounding fossae obliterated as a result of repeated adhesive inflammations, resulting in buried tonsils occurring in adults and in children over 15 years old.

In the writer's experience, the operation that removes the first class of tonsils with the capsule intact, most frequently is that described by Sluder in 1911, and known as the Sluder operation. It is available in over 75%.

In the second class of cases occurring mainly in adults, the writer prefers to operate under cocaine anesthesia with the patient sitting up, a one per cent cocaine solution with a little adrenalin, being injected into the anterior and posterior pillars external to the tonsils.

The operation is then performed in the usual way by dissection and snare. As some fatalities have been reported from adrenalin, due apparently to a large quantity being thrown suddenly into the circulation, only a small and highly diluted amount should be used.

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#### *Radium Therapy in Laryngo-Rhinology.*

MARSCHIK. *Wiener medicinische Wochenschrift*, No. 50, 1912.

The report of a case of scleroma of the nose and pharynx, in a man 30 years old.

The pharynx and alae nasi were greatly infiltrated and the radium treatment was given in three sittings, for over three hours each time. After four weeks, the following results were noticed: The infiltration of the alae nasi had almost entirely disappeared, as well as that in the pharynx, and had been replaced by healthy looking cicatricial tissue.

In a second case, that of a school teacher age 70 years, the radium treatment was used for a carcinoma of the right upper jaw. The neoplasm had extended to the posterior orbital region and had caused fixation and protrusion of the eyeball.

The maxillary sinus, which had been opened through the canine fossa, was found to be filled with a tumor mass. The diagnosis of a suppurative sinusitis had been made. The tumor masses were removed and the radium treatment used, and three months afterward, no recurrence had started. The patient also gained greatly in weight.

In a third case, that of a man 50 years old, with a carcinoma of the upper part of the esophagus just under the cricoid cartilage, with perforation into the trachea, the radium treatment was used, after a tracheotomy had been performed, so that the radium application could be directly applied. The result was very marked within a short time. An esophagoscopy which before had been impossible, could now be done and the larger bougies could be readily passed. Patient later on died of pneumonia, resulting from his perforated tracheal wall.

# ALBANY MEDICAL ANNALS

## Original Communications

CONTRIBUTIONS BY THE STAFF OF THE ALBANY  
HOSPITAL TUBERCULOSIS SANATORIUM.

### INTRODUCTION.

From the opening of the Albany Hospital Tuberculosis Sanatorium on August 14, 1909, to October 1, 1913, there were admitted 724 patients, of whom 659 were discharged, 65 remaining in the Sanatorium on the latter date. Naturally the organization of the Department in order adequately to care for these patients, has been the most pressing consideration. At the same time an attempt has been made, in keeping up with the advances in the treatment of tuberculosis, to keep records of the work done along this and other lines. The papers which follow cover a part of this work, and it is hoped in the future to present each year in collected form such reports as may not be included in the annual report.

It may be of interest at the outset to present a brief analysis of the cases on which these reports are based, and of the general results of treatment.

The 659 patients under consideration were classified on admission as follows:

Incipient .....	117	(17.7%)
Moderately advanced .....	219	(33.3%)
Far advanced .....	300	(45.6%)
Non-tuberculous, bone tuberculosis, etc. ....	23	( 3.4%)

During the stay their weight records were as follows:

Gained .....	223
Lost .....	121
No change .....	21
Records incomplete .....	47
Bed patients not weighed.....	237

Average gain .....	8.10 lbs.
Average loss .....	6.39 lbs.

In accordance with the classification of the National Association for the Study and Prevention of Tuberculosis, these patients were discharged grouped as follows:

Apparently cured .....	11	( 1.7%)
Arrested .....	34	( 5.2%)
Improved .....	199	(30.1%)
Unimproved .....	207	(31.4%)
Died .....	208	(31.6%)

These patients stayed at the Sanatorium for an average period of 74.96 days.

The results of treatment may be more easily studied if they are further classified according to the stage of the disease.

*Incipient* (117 cases):

Apparently cured .....	4	( 3.4%)
Arrested .....	21	(18.0%)
Improved .....	65	(55.6%)
Unimproved .....	25	(21.3%)
Died .....	2	( 1.7%)

*Moderately Advanced* (219 cases):

Apparently cured .....	5	( 2.2%)
Arrested .....	12	( 5.5%)
Improved .....	90	(41.1%)
Unimproved .....	85	(38.9%)
Died .....	27	(12.3%)

*Far Advanced* (300 cases):

Arrested .....	1	( 0.33%)
Improved .....	39	(13.00%)
Unimproved .....	81	(27.00%)
Died .....	179	(59.66%)

The best results are, of course, seen in the Incipient group, but in weighing these figures it should be remembered that of these 117 cases, 27 (23%) were admitted to Ray Brook. This means that a certain number of the most favorable cases come to us each year, stay too short a time to do anything save get a start in the right direction, and then go to Ray Brook to complete the cure. This is perfectly proper, for it is not the function of this Sanatorium to care for Incipient cases alone as it



is at Ray Brook. But it does affect our statistics unfavorably, and this fact should be borne in mind.

From the beginning the policy of the Albany Sanatorium has been a broad one. Its growth has been along those lines where the demands have been the most pressing. It was, perhaps, inevitable that, under these conditions, our facilities for the care of cases that had passed beyond the incipient stage should be utilized to the utmost. Our experience, so far, demonstrates that such an opportunity is eagerly sought, not alone in Albany, but elsewhere as well.

A review of the cases thus far admitted shows that 202 cases have come to us from points outside of Albany city. They were grouped as follows:

No classification .....	11
Incipient .....	40
Moderately advanced .....	63
Far advanced .....	88

Of these cases 63 died, thus accounting for 30.2% of our total mortality. These patients were from 59 different cities, towns, and villages, as follows:

Amsterdam,	Glenmont,	Rensselaerville,
Argyle,	Gloversville,	Rutland, Vt.,
Ballston,	Goshen,	St. Johnsville,
Bellows Falls, Vt.	Granville,	Sand Creek,
Bethlehem Center,	Green Island,	Saranac,
Brooklyn,	Greenwich,	Saratoga,
Cambridge, N. Y.,	Hudson,	Schenectady,
Catskill,	Johnstown,	Schoharie,
Claverack,	Kinderhook,	Schuylerville,
Cohoes,	Maryland,	Stillwater,
Colonie,	Mechanicville,	Stottville,
Corinth,	Mellenville,	Schodack Landing,
Cornstalk,	New York City,	Stuyvesant Falls,
Crescent,	Niagara Falls,	Troy,
Delmar,	North Adams, Mass.	Union Centre,
East Berne,	North Bennington,	Voorheesville,
East Schodack,	Vt.,	Waterford,
Fort Ann,	Norwich,	Watervliet,
Fort Edward,	Rensselaer,	Wempe,
Ghent,	Rossmann,	Whitehall,

Other statistics of interest might be given, but, in a general way, these suffice to give an idea of the scope of the work being done.

The papers that follow are based on the study of these cases. The general conditions under which the work has progressed have been considered in the Annual Reports of the Albany Hospital. From these sources those who are interested may obtain a fairly comprehensive view of the situation as a whole.

November, 1913.

E. C.

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## THE TUBERCULOSIS SANATORIUM AS A DEPARTMENT OF A GENERAL HOSPITAL AND ITS EDUCATIONAL RESPONSIBILITIES.

By ERASTUS CORNING, M. D.,

*Attending Physician, Albany Hospital Tuberculosis Department.*

When the Board of Governors of the Albany Hospital determined to establish a tuberculosis department, and authorized the erection of special buildings for that purpose, they presented to the Medical Staff for solution a problem that presented many points of interest. Considered in its larger aspects, the essence of the problem lay in the fact that the work must be carried out along lines that were for the most part constructive rather than imitative. A county tuberculosis hospital can be standardized, so to speak. In general terms the type of construction, the equipment, the personnel, the system of record keeping, and the routine care of patients that has demonstrated its efficiency in one locality, may, with minor modifications, be safely copied and applied to the needs of any other locality. But when it comes to the organization of such a hospital, not as an isolated unit, but as an essential part of a general hospital the question must be answered in another manner.

Theoretically a general hospital should be equipped to care for every variety of disease. Practically, if this is to be done, adequate provision must be made for the isolation of certain diseases. But tuberculosis, in addition to isolation, demands specially constructed buildings for its proper treatment. Hence the mere setting aside of a special ward for this disease, while

a step in the right direction, is not enough. A separate building, located on high ground in the country fulfills the requirements, and this the Albany Hospital has provided in a site three miles removed from the hospital proper. At this point, the real problems of administration begin. If the relationship between this department and the other component parts of the hospital is to be vital, as it should be, the physical remoteness must be compensated for by a correspondingly intimate association of administrative and medical policies. The department must be conducted as a department, and not as a separate hospital. The superintendent of a general hospital finds himself in a position analogous to that of the President of the United States, that is, he must be President of all of the people and not of any section or party. The needs of all departments must be balanced, the one against the other, and the general policy of each department must in the main be made to conform to the policy of the hospital as a whole. True co-operation can only be obtained by a clear understanding of this reciprocal obligation, and by a constant effort to respect it. Once established, however, the advantages, especially to the department, are tremendous. To cite but one instance, let us consider for a moment the question of treatment. The treatment of tuberculosis cannot be summed up by saying "rest, fresh air and careful feeding." The secondary anaemia needs iron, the defects in the upper respiratory passages must be corrected, the carious teeth need treatment, the failing heart needs support, the conditions of intestinal stasis must be corrected. When these things are done, and not until they are done, the patient is in condition to fight the disease proper in his lungs. Even then, in the course of a long stay, complications arise. An old hernia may become strangulated, an acute appendicitis may occur, an ischio rectal abscess may form, or a cervical adenitis may demand surgical intervention. How better may all these demands be met than by the complete equipment of a general hospital? Instead of calling in specialists from outside, or equipping tuberculosis sanatoria with expensive operating rooms, etc., we may by merely transferring the patient to another service for temporary treatment accomplish the same purpose.

In order to conform to the policy of a general hospital, this

department has placed no restriction on the type of case admitted for treatment. Thus we have groups of cases showing all stages of pulmonary tuberculosis, and in addition those with bone lesions, lymphatic involvement and other extra-pulmonary forms of the disease. Exception might be taken to the admission of advanced cases on the ground that it is no part of the duty of a general hospital to care for incurable cases. As an equally valid point of view, however, we may take the attitude that the great function of a hospital is to minister to the most urgent needs of its community. There can be no doubt that in Albany this need was paramount, as the high percentage of our far advanced cases testifies.

As a result of this policy, the tuberculosis department of the Albany Hospital is now serving a three-fold purpose.

Acting primarily as a subdivision of the hospital proper it affords means through which the occasional cases admitted to the general wards for other reasons, or the cases recognized in the dispensary, can be given immediate and adequate care. Secondly, through an agreement with the county authorities, it accepts cases properly accredited from Albany county, thereby really serving as a county sanatorium. Lastly, as many counties, not alone in New York State, but elsewhere, are as yet unsupplied with special sanatoria, this department, through inter-county agreements, admits their patients and cares for them until proper provision can be made for them at home. The fact that over two hundred cases have come from points outside the city of Albany attests the wisdom of this policy.

There are many other matters in this connection that it would be profitable to discuss, for considered either as an experiment in hospital policy, or as an evolution of the county sanatorium idea, the problem is not without interest. But the subject is a large one, and for the present it is best to confine ourselves to a more detailed consideration of one of its phases.

In the first annual report of the tuberculosis department, the educational responsibility of the hospital as a whole and of this department in particular was recognized. This responsibility extends to the patients, the public, medical students, internes and nurses. Of these, the last two only will be considered at this time, for as essential elements in hospital machinery, they illus-



trate to the best advantage the correlation of the separate department to the general hospital.

Under the system at present in vogue in the Albany Hospital, of the men who succeed in winning appointments on the resident staff, four have the opportunity of electing services that will include a three months' residence in the tuberculosis department. Here then is our problem. On the one hand we have a modern, well-equipped sanatorium, with an average census of seventy patients in all stages of the disease. Back of it stand the resources of a general hospital. On the other hand we have an interne facing a three months' service in that department. How can we arrange matters so that in that space of time he will get to the best advantage the experience and training he is entitled to from the ample material at hand? Primarily, of course, the work must be systematized. In the evolution of this system we are forced to depart widely from accepted standards in order to conform to local conditions. In the county sanatoria the medical supervision is in the hands of a physician who by virtue of his position is expected to spend, if necessary, all, or the major part of his time, in the work. Under him is a resident assistant whose tenure of office, like that of the nurses, is usually one year at the least. But in this department the medical supervision rests with two attending physicians who alternate for periods of four months. The internes, as we have seen, change every three months. The nurses are supplied from the Albany Hospital Training School, taking this service in rotation as part of their regular training, and serving on an average eleven weeks each.

It will readily be seen that these constant changes increase the complexities of the situation to a marked degree. Without the most scrupulous care in carrying out a well-defined system, these changes would result in real neglect of the patients, and the object of the department would be defeated at the outset. The system now in operation, and about to be described, is the result of five years' experience in the treatment of nearly one thousand cases. It is not thought for a moment that this system is perfect or even nearly so, but it must be remembered that it has grown with the department, and our plans have perforce been modified with the changing demands.

*The Patient.*

On admission the temperature, pulse, and respirations are recorded. A sputum box and "cough cloth" are provided, and the necessity for their use impressed on the patient. The "cough cloth" is a quadruple fold of gauze about four inches square, and is to be held over the mouth whenever the patient coughs. The patient should be told that tuberculosis is carried from one person to another by the sputum and also by the fine particles that accompany each cough. He should be told that in all probability he contracted the disease because someone else was careless, and he must be urged to exert constant care himself. It should be explained to each patient that he must always expectorate in the cup and never in the gauze. Once daily, or more often if necessary, the gauze and sputum boxes are collected and burned. Internes and nurses cannot spend too much time in seeing that these precautions are rigidly observed. It is not enough to threaten a patient with dismissal if he neglects to observe them. A careless consumptive in a sanatorium will be even more careless at home. It is not so much the function of the sanatorium to punish a careless patient as it is to teach him to be careful. The unteachable consumptive is very rare, the vicious consumptive is still more rare. The use of a sputum box and a cough cloth is a habit, and like other habits, it takes time to form. It is our duty to the patient, and to ourselves, first to explain the reasons in simple language, and next to spend as much time as is needed in helping him to form the habit. Following this preliminary instruction, each new patient should be put to bed, and kept there for at least twenty-four hours. It should be explained to the patient that this is to rest him, and that if his temperature permits he will be allowed to get up on the following day. The events of the days immediately preceding the admission, have usually been tiring and exciting to the patient, and a day in bed is good medicine. Also, first appearances may be deceptive, and the patient who arrives in the morning with a normal temperature, may, by afternoon, develop a high fever. It is more simple to send him to bed at the outset, and saves just so much wear and tear on his strength. As soon as the patient is in bed, the collection of a twenty-four-hour specimen

of urine is begun. As soon as is practicable the interne takes the history, makes a blood examination, records the blood pressure and examines the sputum. The examination of the lungs may be made immediately or deferred for a day or two, depending on the condition of the patient. A thorough chest examination is an exhausting process, and we must not make the cure worse than the disease. If a patient is very weak, it is wise to make a very superficial examination as a matter of record in case the patient should die suddenly. If a patient gives a history of hemorrhage or hemoptysis within the week preceding his admission the examination should be very superficial or omitted altogether until the attending physician has seen the case. At the expiration of the first twenty-four hours, enough information about the patient's condition has been gathered to determine whether or not he should be a bed case. In general it may be said that cases having a temperature of  $100^{\circ}$  or over, or with a persistently high pulse rate (110 or over) should be kept in bed. Patients with temperature of less than  $100^{\circ}$  but above normal may be allowed out of bed, but must be confined to their chairs. No patient should be allowed any freedom of exercise until the temperature and pulse have been within normal limits for one week. Following the preliminary examinations the patient is next examined by the attending physician. At this examination the collected data bearing on the case are considered, and the patient is given advice as to his treatment. As soon thereafter as possible the patient, if he is able to stand the trip, is referred to the X-Ray Department, where a radiograph of the lungs is taken. This completes the so-called admission examination, and the patient then enters on his regular treatment. The daily routine is similar to that in use elsewhere and need not be considered in detail. Briefly, he spends nearly all of his time, day and night, either out of doors or in rooms so constructed as to admit of fresh air gaining access at all times. Exceptions to this are the periods spent in dressing and undressing, meal hours, and the recreation period in the early evening. In addition to the three regular meals each patient receives nourishment between breakfast and dinner, and again in mid-afternoon. This consists of milk, raw eggs, egg and milk shake, broth, cocoa, albumins or lemonade. In sum-

mer ice cream is served. The daily routine is modified only by the patient's condition, the convalescent cases being allowed more freedom of exercise. A list of the patients is kept in order of admission. The patients are re-examined in rotation, and this examination, like that on admission, is made first by the interne, and the day following by the attending physician. Unless there are special indications, the chest alone is examined at this time, but advantage is taken of the opportunity to review the case fully from every point of view. The patient is told frankly, except in cases where the outlook is hopeless, just what his condition is. It is often possible at these times to show the patient just where excesses or care on his part have influenced his condition. In this way his will power is stimulated and his co-operation gained. It not infrequently happens that a patient entering the examination room discouraged at his slow progress and ready to give up, leaves with renewed courage and a determination to persevere.

### *The Interne.*

The first duty of the interne should be to familiarize himself with the patients already in the house, to determine which of them are most gravely ill, and from a study of their records to prepare himself to meet their most pressing needs. Following this he should become conversant with the details of the admission examination of new patients. Instruction in the use of the sputum box and "cough cloth" is usually given to the new patient by the head nurse. Once the patient is in bed, the interne takes the history on a special blank provided for that purpose, makes a blood examination covering the hemoglobin, erythrocytes, leucocytes, color index, and, if a marked anaemia be present, a differential count of not less than two hundred cells. Night and morning for the first week of each patient's residence, the blood pressure is estimated. This is done by the auscultatory method, the stethoscope being placed over the division of the brachial artery, the systolic reading corresponding to the first sound heard after obliteration is complete and pressure released, the diastolic reading corresponding to the change from the clear to the muffled or distant sound. These pressure readings are charted and filed with the other records



of the patient. If at the end of one week, the pressure readings present nothing out of the ordinary, this procedure is automatically discontinued. Twenty-four hours after the patient's admission, the sputum is examined. The Zieh-Neelsen method is used at present. Until recently, the albumin test was also applied to each new case, but has now been discontinued as a routine measure. In any case where the initial sputum examination fails to reveal the presence of bacilli, the albumin test should be used. The technique of this test is posted in the laboratory. At the expiration of twenty-four hours, the urine is also examined. This is the so-called routine examination, and as yet includes no special features. A Von Pirquet Tuberculin test is applied to all new patients. Spaces for recording the results of these examinations are provided in the combined history and examination blank. If the patient's condition permits, the interne then makes a physical examination. This includes notes on the condition of the teeth and gums, the condition of the heart and the abdomen, a description of any structural abnormalities, curvature of the vertebral column, defects of the bony thorax, the presence of non-tuberculous complications, and finally the examination of the lungs. For the latter, chest outline blanks are provided, and the interne is required to record his findings graphically instead of in writing. The symbols in use are few and simple, but it has been found that this method not only saves time and space, but greatly increases accuracy of observation. This latter point is of importance in dealing with cases whose future progress is to be controlled by repeated chest examinations at the hands of different observers. It is not enough to say "the right upper lobe is involved." We must know the extent and character of the involvement as accurately as possible, if future examinations are to be of any comparative value.

This series of examinations made and recorded, the interne is free to turn his attention to the old patients. He will find a list of the patients in order of their admission. Once the new patients are started on their way, he commences the re-examination of old cases. These re-examinations are confined to the lungs only, unless the interne has the time and inclination to make the examination more complete. The supposition is

that the admission examination is sufficiently thorough to permit of succeeding internes confining their attention to the dominant condition. These examinations are made in strict order of admission, save where special indications exist. For example, if in the judgment of the interne, an old case is doing badly, he may re-examine him out of his turn. These examinations, both of old and new patients, are recorded on the chest outline blanks, and on the day following, the attending physician examines them a second time, thus checking up the independent observations of the interne. It is at this point where the opportunity for teaching is at its best. In the quiet of the examining room, the attending physician, the interne and the head nurse, aided by the patient's previous records, hold, as it were, a consultation on his case. The interne's examination is compared with that of the attending physician, and any dubious points cleared up. The radiographs of the patient taken on admission, and the chest examinations made since, are compared and progress or decline noted. The weight chart, the temperature curve, the bedside notes are all reviewed and a general summary of the patient's progress up to date is made. In this way, each case may be made the text of a short lecture on some phase of tuberculosis, often to the mutual advantage of all concerned. But especially does the interne, from this most direct and intimate kind of teaching, gain an insight into the many aspects of the disease that cannot fail to make a lasting impression. These conferences are never hurried save in emergencies. It is rare that more than two such examinations are attempted in one morning, and frequently an hour or more is devoted to the consideration of one case. The interne is encouraged to ask questions, and should they be of such nature as to preclude the possibility of answering them in brief, he has at hand, as will be seen, a small but comprehensive reference library, and the records of similar cases on file at the sanatorium.

The interne starts his day by making rounds. Instead of prescribing for the patients who demand symptomatic treatment, he makes a list of such needs, and on the arrival of the attending physician, they consider them together. In this way, opportunity is given for the interne to gain an insight into the value of

non-medicinal measures in tuberculosis, and also, through the attending physician's knowledge of the individual patients, to become familiar with their personalities and types of reaction to treatment. Thus the interne day by day becomes intimate with the psychology, the symptoms, the diagnosis and the treatment of the different groups of tuberculosis. The time elapsing between the morning rounds of the interne and the visit of the attending physician, is spent in laboratory work. Here again, should he meet with problems that baffle him, he has at hand not alone his library, but in the attending physician one whose wider experience qualifies him to answer at least some of the questions. After the visit of the attending physician, the interne is free to order the remainder of his day as he wills. The routine of re-examinations demands that at least one old case be examined each day. A sputum examination is made for each patient once a month if possible. If anaemia or nephritis complicates the case, blood and urine examinations are made as frequently as the needs of the case indicate. As the day closes, complete rounds must be made again, and the patients made comfortable for the night.

Twice weekly the laryngologist visits the sanatorium and once a month or more, comes the visit of the dentist. On these days, the interne is urged to give his first attention to these specialists, and they, on their part, are encouraged to give him as thorough training as time permits in the recognition and treatment of the lesions disclosed by their examination.

This, in brief, is the routine for the interne. It will be noted that it provides:

For the patient:

- 1st. Immediate and thorough examination of new cases.
- 2d. Orderly and systematic re-examination of old cases.
- 3d. Prompt attention to those cases most in need of it.
- 4th. Daily supervision of all cases.

For the interne:

- 1st. Close supervision of all his work by the attending physician.
- 2d. Adequate training in the fundamentals of tuberculosis.

The average interne makes from one hundred and twenty

- to one hundred and fifty chest examinations during his period of residence. He has during this time control of an average of seventy cases in all stages of the disease.
- 3d. A continuation, and not an interruption of his general training. Tuberculous and non-tuberculous complications, both medical and surgical are sufficiently common in a service of this size, to impress upon the interne the all important fact that his knowledge of tuberculosis should not be confined to the lungs, but must begin at the mouth and end at the feet. The training received in laryngology, rhinology and dentistry, while immediately applicable to tuberculosis is of course part of his general equipment and is given as such.
- 4th. Freedom to arrange his work as best suits his own preference—an impossibility in the average department of a general hospital. Save for the visit of the attending physician in the morning, no demands from without are made. The only requirement is that the work shall be done.

### *The Attending Physicians.*

When the sanatorium was first opened, two attending physicians were appointed, each serving for three months alternately. Whether through lack of system, or because the period of service was too short, this was found to be unsatisfactory. The attempt was then made to have a continuous service, the new patients being allotted to each physician alternately. This resulted in complete confusion. At this point, one of the attending physicians was granted leave of absence for a year, and this was later extended to eighteen months. During this period the other physician attempted a single continuous service. This was of some value as it enabled one man to put into operation various methods of administration, and to judge from an intimate viewpoint their relative merits. But as the number of patients increased, the burden became too heavy for one man to carry continuously unless he devoted to it his entire time. As this would have been incompatible with the policy of the department, the plan now in use was tried. Two physicians serve alternately for four months each. This service is of sufficient



length to enable each man to familiarize himself thoroughly with all of the cases and also permits of carrying out the study of any minor problems in which he may be interested. By this method of rotation, the weather problem is reduced to a minimum. For instance the man who carries the winter service of January, February, March and April, is not required that year to face the heat of midsummer. To his share, after an ample rest, comes the fall service of September, October, November and December, nearly always pleasant months, and then in the midwinter he is again free, while his colleague in his turn faces the snowy months. After a two or three years' trial this system has been found acceptable from many points of view. The advantages to the physicians themselves have just been pointed out. To the patients it means reducing the inevitable changes in medical supervision to the lowest possible point. Most of the internes, under this plan, serve for a time under both attending physicians, and so gain the advantage of seeing the same problem from two different angles. As the daily routine has been evolved and concurred in by both physicians a change in service does not mean a change in methods, so patients, internes and nurses are not materially affected by this rotation. From the point of view of the general hospital the system is satisfactory in that it eliminates the personal equation as far as possible. If at any time for any reason one or both of the attending physicians should have to be replaced, a new man undertaking the work could carry out the routine devised with especial references to changes of this nature, without much study on his part, and with absolutely no interruption of the work itself. This is perhaps the most important element in the whole situation, for on this hinges the essential difference between the county sanatorium with its continuous, one man service, and the department of a general hospital where the attending physicians are, by terms of their appointment, asked to devote part of their time only to ward work. Neither time nor change should avail to affect the heart of the problem—come what may, the patients must be cared for. The individuality of the physicians, internes and nurses, is of secondary importance. They are merely cogs in the wheel. No system of medical administration in a general

hospital is wholly sound if a given individual is indispensable to its proper working.

It must be remembered in this connection that the attending physician under the present system is called on for medical supervision only. The superintendent of the Training School provides the nurses, the superintendent of the general hospital includes this department with the others in making his contracts for food, bedding and medical equipment. The housekeeper of the main hospital is looked to for upkeep of linen, etc. In this way, although the responsibility is divided, it leaves the physician free to devote his entire energy to the purely medical aspects of the situation.

The daily routine of the attending physician has already been suggested. On his arrival he looks over the temperature charts of all patients, confers with the interne concerning treatment, and then sees the patients most in need of attention. The remainder of the morning is given over to the examination of cases, the new cases taking precedence, and after that the old cases in order of their admission. The interne is thoroughly drilled in the essentials of physical diagnosis with especial reference to those methods best calculated to define tuberculous lesions—the so-called “auscultated cough,” the importance of light percussion, the determination of the expansibility of the lungs, etc. Once a week the attending physician makes complete rounds, and once a week he meets the nurses in conference, as will be described later.

### *The Records.*

Upon entering on his service the interne finds for his guidance a combined history and examination blank. This is in the form of a folder. On the first sheet are printed the facts to be ascertained in the previous history of the case, and space is provided for a record of the associated lesions. The other three pages contain chest outline blanks for six examinations of the lungs. The printed history form saves time for the interne, insures uniformity of histories, and economizes space. Two other separate blanks are provided. One is for the records of urinary, blood and sputum examination. The other one is used by the laryngologist and the dentist for notes on the lesions disclosed by

their examinations, and their orders for treatment. The rest of the chart is similar to the regulation hospital chart, with a few variations. For instance, the temperature chart shows the temperature, pulse and respirations in the customary manner. On the margin below is written the weekly weight of the patient. Above the temperature line is written across the face of the chart, the medication that the patient is receiving. These temperature charts are kept separate from the rest of the chart in a loose leaf binder. As this chart gives at a glance the general trend of events in each case, it is possible for the attending physician each morning to review the cases in a very short time. Again, instead of the routine daily bedside notes, which in long standing cases, often amount to nothing but a repetition of the phrase "Patient's condition unchanged," we have adopted weekly summaries. These summaries are the result of the combined observations of the interne and nurses, and furnish a very satisfactory current history of the case. It not only takes less time to review any given case, but it relieves the nurses from a mass of clerical work, essential in more acute conditions, but often valueless in chronic cases. Experience has shown that in order to carry on the work demanded of us under the peculiar limitations of the situation, every attempt must be made to discard the non-essentials and leave the physicians and nurses free to devote every possible minute to actual bedside work. In spite of our efforts, the burden of clerical work is so heavy that there should properly be one paid nurse who can devote her entire time to the keeping of charts and records and the compilation of statistics. To mention but one point at which this need is felt, it is impossible at present to send to physicians who refer cases to the sanatorium, regular reports of their condition. This should be done, for if a patient leaves the sanatorium against the advice of the attending physician, his family physician should be advised of the fact, and records showing the patient's condition placed in his hands. In this way he would be enabled to follow his patients, and judge of their condition without repeating much of the work already done by us.

The system of record-keeping at present in use in the Albany Hospital requires that all charts shall be signed and filed in a room provided for that purpose, within a few days after the

death or discharge of the patient. By means of a card index, these charts are readily available at any time. The distance of the tuberculosis sanatorium from the main hospital, however, is so great that it was necessary to devise some means whereby the department could have constantly at hand its own records, without interfering with the general system. For this purpose a so-called "Summary Sheet" has been printed. On one side are provided spaces where the patient's name, age, civil condition and so on may be recorded. The classification on admission and on discharge, the length of stay, the maximum-minimum temperature, pulse, and respiration for the first and last week, the gain or loss in weight, records of blood, sputum, urine and blood pressure and notes on complications and treatment are also included. On the reverse side are two chest outline blanks for recording the condition of the lungs on admission, and a copy of the last examination before discharge. This sheet is filled out from the chart, and the chart then becomes part of the general hospital records, but the summary sheets are kept in loose-leaf binders at the sanatorium. In this way the records of a constantly increasing amount of carefully studied material are directly at hand, and as time goes on, should prove of value. The uniformity of these records is of no little assistance in the compilation of statistics.

Some other things have been done with a view to increasing the teaching efficiency of the department. A number of charts have been copied, framed and hung in the examination room. These charts, selected from time to time, show the effect of rest in bed on fever, the effect of complications such as sero-fibrinous pleurisy on fever, the effect of exercise on pulse rate, the type of hyperpyrexia intractable to treatment, and various other typical conditions met with in the everyday work. As this department is three miles away from the city, a small medical library, general in character but with works on tuberculosis predominating, has been started, and provides a means of reference and study of no inconsiderable value. There are of course, many things that yet remain to be done that will be of help to the interne, nurses and students. The item that is perhaps the most needed to make our equipment more complete is a collection of pathological specimens. This matter has already



been taken up with the Director of the Bender Laboratory, and he has promised his assistance. From the autopsy material available through the Bender Laboratory there could be accumulated in the course of time, a valuable series of specimens showing the various lesions of tuberculosis. With this at hand the teaching facilities would be excellent. For example an interne examining a new case locates an area in the lungs that gives signs of cavity formation. From the radiograph he may confirm the finding. In the text books he may refresh his memory on the pathological sequence that leads up to cavity formation, and with an actual section of lung showing this lesion at hand he could in a short time and with little effort obtain a comprehensive grasp of this phase of tuberculosis in its entirety.

To sum up, the attempt is made to give the interne training in tuberculosis, *not* as a specialty, but as part of a course in general medicine. The non-tuberculous complications are carefully studied and the ultimate relationship between tuberculosis and the other branches of medicine is accented.

### *The Nurses.*

The nurses have furnished a different, and in many ways a more difficult problem. In order that there may always be some experienced nurses on duty the changes in the nursing staff are made one or two at a time. Thus no group of eight or ten nurses can be carried through any definite course of instruction. As part of their regular lecture course they hear lectures on tuberculosis, but in some cases it is necessary to send a nurse to the tuberculosis department for her actual training before she has heard lectures on that subject. In any event a nurse in contact for ten or twelve weeks with so varied a series of cases should be given instruction that will amplify her lectures. Naturally the daily burden of teaching must fall on the head nurse. But her instruction must, of necessity, be from a nursing point of view, rather than from a medical standpoint. For the first few years nothing was done, although the need for such instruction was a constant source of worry. The other phases of the problem, outlined here and elsewhere, were so pressing that they had to be dealt with first. During the past year, however, a start has been made. Through the week each nurse hands in

to the head nurse any question that she cares to have answered. These questions are not signed, and the head nurse or the interne are equally at liberty to avail themselves of this opportunity. Once a week, on any morning where time permits, the nurses assemble for an informal discussion in the examination room. The attending physician is given the questions that have accumulated, and he answers them in order. This system has certain very obvious disadvantages. It is an incoherent and disorderly method of teaching tuberculosis, and it must leave big gaps in the nurse's knowledge. But it has equally some advantages. Considering the limited amount of time at our disposal, it gives perhaps as much teaching as could be obtained in any other way. It is true bedside teaching for the nurses are encouraged to ask about individual patients, and cases under their care at the moment are cited as examples illustrating points under discussion. It stimulates the nurses to observe more closely and to think about their observations. A review of the questions asked so far reveals the fact that the greatest number refer to symptoms, the next largest group dealing with treatment. A few questions will perhaps be of interest.

In a case of advanced tuberculosis is the process of metabolism the same as in an incipient case?

What is the effect of alcohol on tuberculous patients?

What is the cause of night sweats?

What is the action of creosote on the lungs?

Why is tuberculosis of the lungs more common than tuberculosis of other organs?

If the sputum contains bacilli why does not a more serious infection of other organs arise from swallowing the sputum?

Why does a patient cough? Why does one patient cough more than another?

Explain the improvement in Mr. D——'s condition since his removal from the men's wing to the small ward where the air space is more limited?

Why is Mr. B——'s temperature higher in the morning than in the afternoon?

Others might be cited, but these are enough to show that the nurses are really thinking about the patients, and the results show that they welcome any opportunity to increase their knowledge.

To sum up, it may be said that whatever theoretical disadvantages there may be in the routine just described, it is at least a practical working proposition. It is of sufficient simplicity to enable a new interne to carry it on without spending too much of his time in mastering its details. It provides for prompt and careful attention to each new patient, and insures to the old patients daily supervision and regular, though still too infrequent, examinations. By including the nurses it stimulates their interest and through this gives to the patients more intelligent and thoughtful care. To the nurse it affords not only an opportunity to study tuberculosis under favorable conditions and, at the same time, as pointed out elsewhere, of improving her own health, but it provides an excellent contrast to the work demanded of her elsewhere in the hospital. As this department alone admits cases that stay for more than a few weeks, the nurse soon learns the necessity for studying the patient as well as the disease. In dealing with eclampsia, pneumonia, typhoid fever, and surgical cases it is not what the patient wants but what the case demands that counts. But in tuberculosis all our equipment and preparation is useless unless the patient can be induced to stay for a period of time that often seems to him unreasonable. A tactful nurse, alive to the needs of the situation and willing to study her patient's personality can do much to create the spirit essential to success. Such training cannot fail to be of value to her later on in private nursing.

To the interne it gives the chance first for a thorough grounding in the elements of tuberculosis in a relatively short time, without dissociating him from the atmosphere of a general hospital. He has ample opportunity of perfecting his laboratory technique along those lines most needed by the general practitioner. In his three months' service he will make on the average from a hundred and twenty to a hundred and fifty chest examinations. As each of these examinations is checked up, so to speak, by the attending physician on the following day, his experience in physical diagnosis is reasonably good. In addition he may familiarize himself with the interpretation of radiographs, he will see enough of laryngology, rhinology and dentistry to realize the importance of their relationship to constitu-

tional conditions, and through the recognition and treatment of complications he keeps in touch with general medicine.

In reviewing this paper I can find but one justification for its length. As far as my knowledge goes, the experiment of establishing a tuberculosis department in a general hospital has not before been attempted on this scale or in this way. As an attempt at unification of the work heretofore done separately by general hospitals and county tuberculosis sanatoria, its success or failure and its *modus operandi* are of interest both to the student of hospital policy and to the worker in the field of tuberculosis. For this reason it has seemed justifiable to make the details of its management a matter of record.

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## A STUDY OF THE THERAPEUTIC EFFECTS OF THERMO-PENETRATION IN THE TREATMENT OF PHTHISIS PULMONALIS.

BY HOWARD VAN RENSSELAER, PH. B., M. D.,

*Professor of Materia Medica and Therapeutics in the Albany Medical College.*

The subject that I have in mind to present is one of the many new forms of treatment in attempting to improve or cure that dread disease consumption. The particular therapeutic agent that I am investigating is the high frequency electric current. The steps that led up to a trial of this current are somewhat as follows:

Many years ago a patient collaborator of statistics was studying the relative frequency of the complications in various forms of heart disease. He recorded that in lesions of the mitral valve, consumption was one of the rarest of complications. He drew no deduction from this fact, observed as the result of study, in a vast number of cases of heart disease. If we try to trace out the relationship between cause and effect between these two diseases, and if we consider a moment the morbid anatomy that mitral disease produces in the lungs, we are struck by the fact that in this disease there is regularly a marked congestion of the lungs. By theoretical reasoning then it would seem that where there is an abnormal amount of blood in the lungs, that tubercle



bacilli are more readily destroyed, or, at least prevented from multiplying as they do in the anaemic condition of run down individuals.

The obvious therapeutic indication from this reasoning would be to produce a congestion in the lungs as a means for combating the inroads of consumption. Naturally it would be unwise to attempt to produce mitral disease in order to cure consumption. And theoretically what is wanted is not a passive but an active congestion. You are all familiar with the active hyperaemia produced in joints and extremities, by special apparatus, by the method introduced by Bier, in the treatment of various acute and chronic inflammations, and how rapidly many lesions improve under this form of treatment by means of hyperaemia.

So that it would seem to be logical to attempt the same form of therapeutics in the chronic inflammation of phthisis pulmonalis. The practical application of this method to such a large and remote organ as the lungs presents a much more difficult problem than it does to smaller and more accessible portions of the body. Heat, in the Bier treatment, or in the form of hot packs and poultices, acts first and mainly upon the superficial parts, such as the skin, and next upon tissues and bones lying contiguous to it. But in the chest the lungs lie separate, and are unconnected directly with the skin or with the muscles and bones of the chest wall, and so are much less affected by the direct heat which does not penetrate so deeply, the heat expends most of its effect upon superficial tissues where it is not needed, and the mild congestion of the lungs which supervenes is largely due to its after effects upon vaso motor nerves. Its lesser internal effect is more wide spread involving pleura and heart and to a lesser degree all the internal organs. The effects upon these other organs are undesirable but unavoidable by heat applied externally. Hence efforts in the application of external heat to produce a beneficial congestion of the lungs have been unsatisfactory.

Theoretically what is needed is something that will directly heat up the lung as a whole, or any particular portion of it that we choose, but without producing a general congestion over a large area of the body.

It has been impossible to accomplish this until the discovery

of the many-sided new effects that can be produced by that strange form of electricity called the high frequency current.

There is one form of its many varieties of application to which I wish to direct your attention, it is what is called thermopenetration.

In the ordinary forms of electricity with which you are most familiar, namely the faradic and galvanic currents, electrical and chemical action takes place very largely at the poles.

In thermopenetration just the opposite effect is produced. Heat and chemical action are most intense midway between the poles provided that the poles are of the same size. As a practical illustration of what I mean, if we take a long glass tube and fill it with albumen water and cork the two ends, and insert just through each cork an electrode; on turning on the current no chemical action is observed at the poles, but presently the albumen coagulates at the center of the tubes, midway between the two electrodes, thus proving that the heat is deep seated and not produced at the periphery. If, however, we use a large tube with a large electrode at one end and a smaller at the other, the commencement of coagulation and the most intense heat begins not in the center but nearer to the smaller electrode, thus by varying the sizes of the electrodes you can start coagulation in any part of the tube that you desire.

The technique of the application of this method to consumption of the lungs will not concern us to-day, but simply its results.

At the outset I want to say that the employment of the high frequency currents have given us the best results of any special treatments that we have tried.

In order to have a method of comparison as to the value of this method of treatment, we arranged at first all the patients as they entered the sanatorium into one of two classes, those who took the high frequency current, and those who were given the tuberculine treatment. The odd numbers on entering were given high frequency and the even numbers tuberculin. A little later we added a third class, which we called the control cases, who were given no special treatment. This accounts for the smaller number of the control patients. This method of putting each new patient into one of the three groups, is not an ideal

method of comparison, as some patients enter in the first stage and some in the second, but it is the simplest and is fair when a large number of cases shall have been studied, though it could readily lead to error when but few cases are observed. A comparative study of the three groups shows that the best results were obtained by the high frequency treatment, as the following brief statistics indicate. Of the 11 control cases that have left the sanatorium, none were apparently cured, 2 were arrested, 7 were improved, and 2 unimproved, of whom 1 died; the arrested cases being nearly 22%. Of the 17 tuberculin cases, none were apparently cured, 2 were arrested, 13 improved, 2 unimproved, of whom 1 died. The arrested cases being 11.5%.

A comparison of these two groups shows about the same results, and in our hands, in the small number that we have treated, we can see no marked benefit from the administration of tuberculin, in fact the control cases averaged up somewhat better.

In the high frequency cases 13 were discharged—of these three were apparently cured, whereas none were apparently cured in the other two groups, five were arrested, three improved, two unimproved, of whom one subsequently died. The percentage of the apparently cured and arrested cases was 66½%. This percentage being nearly three times better than the control and over five times better than the tuberculin cases.

Another important point, on which we lay stress to show improvement or loss in a patient's condition is his weight—all the patients are weighed weekly. Including the patients who are now under treatment, there are 16 under control, of these 11 have gained 66 pounds, an average of 6 pounds, and five lost 35 pounds, an average of seven pounds, the average gain for all the controls, including those who lost, was nearly two pounds. The percentage of those who gained, 68.75. In the tuberculin group of 22 patients 16 gained 60.5 pounds, an average of 3.8 pounds, six lost 8.75, an average of 1.46. The total average of gain being 1.35. The per cent of the tuberculin patients who gained was 72.6. In the high frequency group of 24 patients 21 gained 201 pounds, an average of 9.6, and three lost 22 pounds, an average of 7.5. The average gain of all the patients including losses being 7.47. The average gain being more than

three and a half times the other two classes. The per cent of the high frequency patients who gained was 87.5.

In order to prevent patients from spreading the disease among the members of their families, we endeavor to keep the patients as long as possible in the hospital. On comparing the length of stay in the hospital of the three groups of patients, I find the following interesting results. This summary includes those still in the hospital. The 22 tuberculin cases have an average of 58 days. The 16 controls 60½ days, these two groups again comparing about equally, whereas the 24 electrical cases averaged 160 days, *i. e.*, more than two and a half times as long as either of the other groups.

To my mind if the electrical treatment had no other effect than in making the patients more contented to stay in the sanatorium for a longer time, its use would be justified.

The benefits so far obtained from the administration of the high frequency current in comparison with the other two groups are:

(1) The ability to keep them longer in the hospital, more than two and one-half times as long as the other forms of treatment.

(2) The greater increase in weight three and one-half times greater, and the 25% larger number of patients who increased.

(3) And finally and most important: of the discharged patients 66½% apparently cured or arrested, against 22 as the best of the other methods of treatment.

On hearing or reading of some new and often striking medical fact, or new drug, or unusual treatment as just described, what should be our mental attitude regarding such a discovery or improvement? It should be received, I think, with an open mind, without too much enthusiasm, but rather with a certain amount of healthy scepticism. We should not be ready to accept as true everything that is presented to us as new and valuable in medicine, until it is corroborated by other investigators. Before accepting such a thing as demonstrated, we should expect and demand proofs of the authenticity of the truth. So many elements of doubt may enter to vitiate the conclusions that it is very difficult to judge of the real worth of the results that are presented.



In regard to the ultimate value of the treatment of tuberculosis by the high frequency current, I am as yet not perfectly clear in my own mind. I should like, however, to enumerate some of the causes of error in such an investigation, as well as our methods of endeavoring to check results; that you may form an opinion as to the reliability of the deductions that we have made.

In the first place it is often difficult to determine in what spirit the investigator begins the experiment. If he has a predetermined idea as to the results that should be produced, if he wishes to prove a theory that he has formulated, he begins with a distinct bias towards the results that he wishes to accomplish, which unconsciously may cause him to magnify the facts that he desires, and to minimize those that are unfavorable, and thus he is likely to falsify his results, and his deductions are not of much value. Unconsciously he deceives not only himself but also his hearers or readers. The investigation under discussion I believe I attacked with an open mind, with no theory to prove, and without a great deal of faith in the ultimate benefit of the treatment.

Again the physician may easily deceive the patient into believing that he is better, partly by his own enthusiasm for the subject, or by his personal magnetism, or by what is most common, by his more or less unconscious suggestion to the patient, that this treatment is benefiting him. So often the patient's belief in the value of the treatment may be deceiving. This source of error I have avoided by coming as little in contact with the patients under treatment as possible, by never discussing the value of the treatment with them, and by forbidding the clinical assistant who gives the treatment from raising their hopes, etc. Another source of error would be to choose the most favorable cases, on whom to demonstrate the treatment. This we have prevented by placing the patients on entering the sanatorium in one of the three groups by rotation, as already mentioned.

The proof of improvement or cure in any individual should have as much real scientific proof as possible, rather than expressions of belief.

To help us in our estimate of the value of the high frequency

treatment we have tried to check results by means of the X-Ray, the sputum, the physical examination, the temperature, the weight and general condition, and by repeated examination of the blood.

In these investigations and in the technique of the administration of the current, we are hampered by the fact that we have but one machine and so cannot give each patient as frequent a treatment as we could wish, and but one clinical assistant, one person being insufficient to carry out all the details that we desire.

Each ambulant patient on entering the institution has his chest X-Rayed, and the negative kept at the hospital, and each two months thereafter new plates are taken, which can then be compared with the old ones. This is the most accurate scientific method of all to show the actual changes in the lungs. With us the results are somewhat disappointing as the current supplying the X-Ray machine in the hospital is too feeble to produce the instantaneous work that is required in phthisis pulmonalis, so that the plates are not sufficiently sharp to permit us to make accurate mathematical measurements of the changes in the size of the individual lesions.

The sputum in the cases which have improved has lessened, and has ceased in the arrested and apparently cured cases.

The physical examination is made monthly, and recorded. The fever ceased in the arrested and apparently cured cases. The improvement in weights I have fully discussed, and the strength and general condition usually followed the weight.

We have also studied the blood pressure, and the composition of the blood as aids in our prognosis.

Almost invariably the blood pressure is distinctly diminished in phthisis, and though I have no full statistics on our patients, yet I believe the pressure rises with the general improvement of the patient.

Examination of the blood of the patients taking the high frequency current has been taken monthly. In general we find in phthisis a moderate leucocytosis, together with a definite change in the relative proportion of the polymorphonuclear leucocytes and lymphocytes. The polymorphonuclear are increased and the lymphocytes are diminished.

The red cells and haemoglobin also are usually diminished. A careful study of the very many blood counts made show in general, that in the cases that improve and get well, that the red cells return to normal and the haemoglobin as well, that the number of the white cells diminish and that the percentage of polymorphonuclear decreases and the lymphocytes increase until their proportions become normal.

These then are the methods that we employed to arrive at as an unbiased opinion as possible.

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## THE USE OF SCARLET RED IN THE TREATMENT OF TUBERCULOUS LARYNGITIS.

### A PRELIMINARY NOTE.

#### *Introduction.*

BY ERASTUS CORNING, M. D.,

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The use of the dyestuff known variously as "Scarlet R," "Scarlet Red," "Sharlach R," etc., in the treatment of superficial ulcers is so familiar that it is unnecessary at this time to review the literature. In November, 1912, Davis and Deming published in the *Johns Hopkins Hospital Bulletin* (No. 261), the results of their experimental work on "The Effect of Scarlet Red on defects of the Mucous Membrane of the Stomach." Briefly, they produced artificial gastric ulcers in dogs and fed one group of these animals a one per cent solution of Scarlet Red in olive oil. The other group, acting as controls, were fed on plain olive oil. During the course of this work they determined that Scarlet Red was non-toxic, had no purgative effect, and did not injure the kidneys. In summing up the results of their experimental work they say "The Scarlet Red Oil Solution caused a more rapid and better developed growth of epithelium in the group in which it was used than occurred in the group where plain olive oil was used."

After reading this report it occurred to me that if such results were possible in the stomach a similar action might be obtained in the case of laryngeal ulcers. At the Albany Hospital Tuber-

culosis Sanatorium during the past four and one-half years there have been admitted between seven and eight hundred cases of tuberculosis, in all stages of the disease. The records show that seven per cent of all admissions present tuberculous laryngitis as a complication. Any one whose work has brought him in contact with this class of sufferers realizes how distressing the condition is, and how urgent is the need for some form of treatment that will accomplish more than the recognized applications of silver, lactic acid, etc.

The matter was discussed with Dr. E. E. Hinman, who consented to institute treatment in these cases. His report, which immediately follows, is of necessity based on a small number of observations. The results, however, particularly the prompt amelioration of pain, have been sufficiently encouraging to warrant their publication as a preliminary note, in the hope that other observers will feel disposed to give the method a more extended trial.

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## THE TREATMENT OF TUBERCULOUS LARYNGITIS WITH SCARLET RED.

BY EUGENE E. HINMAN, M. D.,

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Albany Hospital.*

The treatment of the tuberculous lesions of the throat has been for many years the subject of special investigation, but as yet nothing approaching a specific has been found. Some have reported good results in a certain percentage of the non-ulcerative cases with formalin, applied both as a spray and by means of applicators, claiming a germicidal action for the drug through the unbroken mucosa. Most observers have had a certain amount of success in the ulcerative cases by applications of lactic acid, and silver nitrate certainly has some value. Notwithstanding all of these agents many of our patients have failed to improve, and as they advance the most annoying feature of their trouble—pain—grows worse.

7 Pain in tuberculous laryngitis varies from a slight soreness, noticed only when swallowing, to a most intense pain which may



be present all of the time. This prevents many patients ingesting sufficient food and since it is most important in this disease to force the feeding, we often wage a losing fight because they cannot get enough nourishment.

The success of Davis and Deming in the treatment of gastric ulcers with Scarlet Red led us to believe that there might be something of value in this dyestuff in the ulcerations of laryngeal tuberculosis. It was accordingly ordered for all such patients at the Sanatorium. In order to test its efficacy we applied it to all cases presenting laryngeal lesions, whether ulcerative or not. The series of cases which are included in this preliminary report is of course small, for the work has been in progress but a short time, but we believe that there has been shown enough of a favorable nature to make it worth a further investigation not only by us but on the part of others engaged in this line of work. In fact several investigators of note, both clinicians and pathologists, are studying the drug along the lines suggested by our results.

At the start we attempted to use the suspension of Scarlet Red in olive oil by means of atomizers. The dye was not very soluble in this medium and the suspended particles soon clogged the atomizer, the patients getting but little of the drug. We then tried it in sesame oil, which gave us a better solution, but very thick and not well adapted to use in an atomizer. It was therefore applied by means of applicators. We are now using a pigment, whose base is equal parts of sesame oil and vaseline, with a dye strength of ten per cent, and this is applied twice daily to the larynx. The drug is not at all irritating and the applications are not distressing. Thus far we have not observed anything of a toxic nature, nor, in fact, any untoward symptoms.

The first and most surprising result obtained was a very prompt relief of pain. This was noted in every case where pain had been present. It was reduced in all cases and in some entirely relieved, so that patients were able to eat and drink with comfort. In all cases but two, both of whom were far advanced before treatment was instituted, and both dying very soon thereafter, ulcerations showed a tendency to heal. The general laryngeal congestion of several cases soon subsided and the hoarseness improved.

A few patients presented only infiltrations and edema. After a few weeks of this treatment with Scarlet Red the swelling grew markedly less. Of course it is to be borne in mind that these were the more incipient cases and that they improved generally during this time and therefore the local improvement may have been as much due to the general betterment as to the local effect of the dye, but it is reported because it is very possible that this drug may be shown to have some selective action through the unbroken mucous membrane. As yet all of our investigations and observations have been from the clinical standpoint and therefore the pathological findings are not reported.

CASE I. Mr. W., age 34, married, a bartender, was admitted July 23, 1912. He was very hoarse and examination revealed a general hyperaemia of the entire larynx, the cords were swollen and there was a small inter-arytenoid vegetation present. Local applications of silver nitrate and formalin failed to produce any improvement. Scarlet Red was substituted May 1, 1913, and an improvement was soon apparent. The swelling lessened, the aphonia cleared somewhat and at the present time the infiltration on the posterior wall has disappeared entirely and the patient is greatly improved.

CASE II. Mr. P., age 44, married, a laborer, was admitted January 10, 1913. He was aphonic, had severe laryngeal pain and excessive dyspnoea. Local examination showed the left cord ulcerated, the right cord infiltrated as well as some infiltration of the ventricular bands. Applications of Scarlet Red were begun in March, 1913. The pain very soon subsided entirely, the ulcerations of the left cord healed and his aphonia is greatly improved, that which remains is mainly due to weakness of the cords and their muscles.

CASE III. Mr. K., age 21, single, a clerk, was admitted November 4, 1913. He had been hoarse for nearly one year. Examination showed ulceration of both cords with an infiltration of the posterior laryngeal wall. Scarlet Red is being applied daily and the ulcerations are showing a tendency to heal, his hoarseness is clearing and he says that he can talk more easily.

CASE IV. Miss L., age 19, a shirt worker, was admitted May 26, 1913. She was very hoarse, but had no pain. The right cord and both arytenoids showed a marked infiltration and the entire larynx was intensely congested. Scarlet Red was applied daily and the infiltration has greatly lessened, the hoarseness diminishing as the swelling decreased. She says that her throat "feels better." This patient has had several intercurrent attacks of acute catarrhal laryngitis which quickly disappeared under silver nitrate.

CASE V. Mr. B., age 29, single, a clerk, was admitted November 22, 1913. He was slightly hoarse and noticed a little difficulty in swallowing. His epiglottis was found to be very greatly swollen and both cords slightly infiltrated. This patient also had a positive Wasserman reaction, although there was no specific history. His improvement under Scarlet Red has not been marked and we now feel that it is probably due to his mixed infection and have made arrangements to administer Neo Salvarsan.

CASE VI. Mr. F., age 33, single, a farmer, was admitted December 5, 1913. He complained of some hoarseness and some pain on swallowing. His cords were found to be moderately infiltrated and the epiglottis was swollen. This patient does not speak English and it is difficult to get much information as to his subjective symptoms, but he is certainly having less pain and his voice is clearer. The local conditions have not greatly changed.

CASE VII. Mrs. A., age 44, married, was admitted December 15, 1913. She had excessive pain on swallowing and has been hoarse for nearly a year, the hoarseness now amounting to nearly complete aphonia. Examination showed extensive arytenoid infiltration, infiltration and superficial ulceration of the ventricular bands and an ulceration of both cords. While she has not been long enough under treatment to secure much improvement there has been an amelioration of the pain and she speaks with less difficulty.

Two patients who presented extensive ulcerative lesions of the larynx when they were admitted have since died. In one there was a decided lessening of pain and some improvement in the ulceration prior to his death, the other patient died shortly after beginning treatment before results could be expected.

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## PNEUMOTHORAX, WITH A REPORT OF THREE CASES.

By MALCOLM DOUGLAS, M. D.,

*Attending Physician, Albany Hospital Tuberculosis Sanatorium.*

Pneumothorax, or air in the pleural cavity, is a rather infrequent complication of pulmonary tuberculosis.

Laennec, the inventor of the stethoscope and father of physical diagnosis, in 1819 established the disease as a clinical entity.

Pulmonary tuberculosis is the greatest factor in the cause of this condition, and various authors put the percentage at from 75 to 90 per cent.

Biach's records bring out the percentage at 77.8. He saw in thirty-eight years at three Vienna hospitals 918 cases.

His table follows:

Phthisis, 715	Nematode worms in pleural cavity, 2
Gangrene, 65	Rupture of encapsulated peritoneal effusion, 1
Empyema, 45	Hydatid of lung, 1
Injury, 32	Caries of rib, 1
Bronchiectasis, 10	Caries of sternum, 1
Abscess of lung, 10	Rupture of bronchial glands, 1
Emphysema, 7	Abscess of breast, 1
Breaking down of haemorrhagic infarct, 4	Fistula between pleura and colon resulting from hydatids, 1
Paracentesis thoracis, 3	
Perforation of oesophagus, 2	
Perforation of stomach, 2	
	Uncertain causes, 14

It has also followed violent respiratory effort, contusions and in the case of children as a complication of the diseases in which broncho-pneumonia is a feature; namely whooping cough, diphtheria and measles.

In its connection with phthisis it is seen oftenest in the young adult in whom the tuberculous process is usually more acute. In later life when the tuberculous process moves more slowly, adhesions form between the visceral and parietal pleurae and perforation is less apt to occur.

The air enters the pleural cavity usually through a hole in the pleura caused by the breaking down of a small intrapleural or subpleural tubercle or less frequently through the rupture of a pulmonary cavity lying just beneath the pleura. The commonest site is the lower part of an upper lobe or the upper part of a lower lobe. That the upper part of the lung is spared is due to the fact that this area is usually the seat of adhesions.

Now the normal pressure in the pulmonary vesicle is slightly higher than in the pleural cavity and this serves to keep the pleural surfaces in close apposition. If, however, communication be established between the pulmonary vesicle and the pleural cavity, the latter immediately draws enough air through the opening from the lung to equalize the pressure existing in the pulmonary vesicle. Then the lung by its natural elasticity col-



lapses, the pleural surfaces are widely separated by the aspired air and the condition of pneumothorax occurs.

That this does not always follow pleurotomy is due to the increased inspiratory effort of the lung by which its natural elasticity is overcome and the lung even overdistended to the point where it protrudes through the pleurotomy wound.

A pneumothorax may be complicated by an effusion of serum, blood or pus, to which the more specific terms, hydropneumothorax, haemopneumothorax and pyopneumothorax are applied.

The size and character of the opening between the lung and pleural cavity has a bearing on the physiological effects of pneumothorax. If the opening be large and unobstructed the air passes in and out and there may be no intrapleural pressure. When, however, the opening is small and valvular, the air enters the pleural cavity during inspiration, the opening closes during expiration and then we find marked intrapleural pressure and displacement of organs. The great majority of pneumothoraces are of this type.

When the air enters the pleural cavity the pleural surfaces are widely separated and the lung, if free, collapses and lies as a shriveled airless mass close to the spine. The mediastinum and its contents are pushed towards the sound side by the increased pressure in the affected pleural cavity and the diaphragm liver and spleen depressed. If air tight adhesions have walled off part of the lung, complete loss of function does not occur and the symptoms are markedly modified. In some cases not associated with phthisis the opening through the pleura may be sealed by adhesions, the aspired air absorbed and the lung again resume its functions. Bilateral pneumothorax is extremely rare and always fatal.

### *Physical Signs.*

On inspection we find limited motion and distension of the affected side, displaced apex beat and liver. We must remember, however, that a simple effusion often gives the same picture so that the information gained by inspection alone is not characteristic.

On palpation the signs are not uniform. Usually the fremitus is diminished and at times may be entirely absent. If adhesions

exist and the lung is unable to retract it may be normal or even exaggerated.

On percussion the note is variable and depends on the amount of retained air and its tension. It is usually hyperresonant and often tympanitic, but may be dull or flat if extreme tension exists in the affected pleural cavity.

Our most positive findings are by auscultation. The respiratory murmur always shows a change. In most cases it is diminished and may be entirely absent and this sometimes leads to errors of diagnosis. We should always suspect pneumothorax when we find diminished or absent respiratory murmur over a lung area of hyperresonance or tympany. When the respiratory murmur is present it is distinctly bronchial in character. Vocal resonance is feeble and amphoric.

When fluid exists in the affected side together with air we find the succussion splash and coin sound present.

Fluoroscopic examination shows an extremely light area corresponding to the air dilated pleural cavity with an area of intense shadow representing the shriveled and consolidated lung tissue.

The diagnosis is not difficult. Hyperresonance absent or feeble breath sounds, displacement of heart and liver, accompanied by pain in the chest, dyspnoea, cyanosis and collapse especially in those patients with pulmonary tuberculosis, indicate pneumothorax.

The prognosis is bad in those cases associated with pulmonary tuberculosis. It depends partly on the condition of the other lung and the presence of adhesions. The mortality according to most authors is about seventy per cent.

The treatment is merely palliative and symptomatic, consisting of stimulants and opiates. Paracentesis has been done in cases where extreme intra-pleural tension has been present.

The following is a report of three cases of pneumothorax seen at the Albany Hospital Tuberculosis Sanatorium.

CASE I. Developed pneumothorax in the interval between two admissions to the Sanatorium and physical examinations were made before and after pneumothorax occurred. This case

showed no signs of fluid in the pleural cavity in connection with the pneumothorax.

CASE II. Entered the Sanatorium with pneumothorax and no other physical examination was obtained. This case showed all the signs of fluid as well as air in the pleural cavity, but its character was not ascertained.


CASE III. Developed pneumothorax during her stay at the Sanatorium so that physical examinations were also made before and after pneumothorax occurred. She developed pyopneumothorax as autopsy showed later.


CASE I. W. M., age 19, Italian American, school boy, entered the sanatorium December 18, 1912. Referred by Dr. Applebee, Albany, N. Y.


### KEY TO ABBREVIATIONS AND SYMBOLS.

I.V.R. = INCREASED VOCAL RESONANCE.

P.H.P.E. = PROLONGED HIGH PITCHED EXPIRATION.

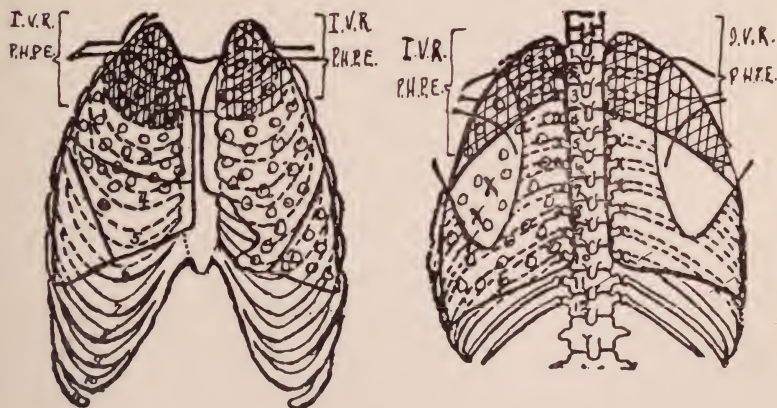
 = DULNESS ON PERCUSSION

 = FLATNESS (FLUID)

 = RÂLES

XXX = PLEURITIC FRICTION RUB

FIGURE I

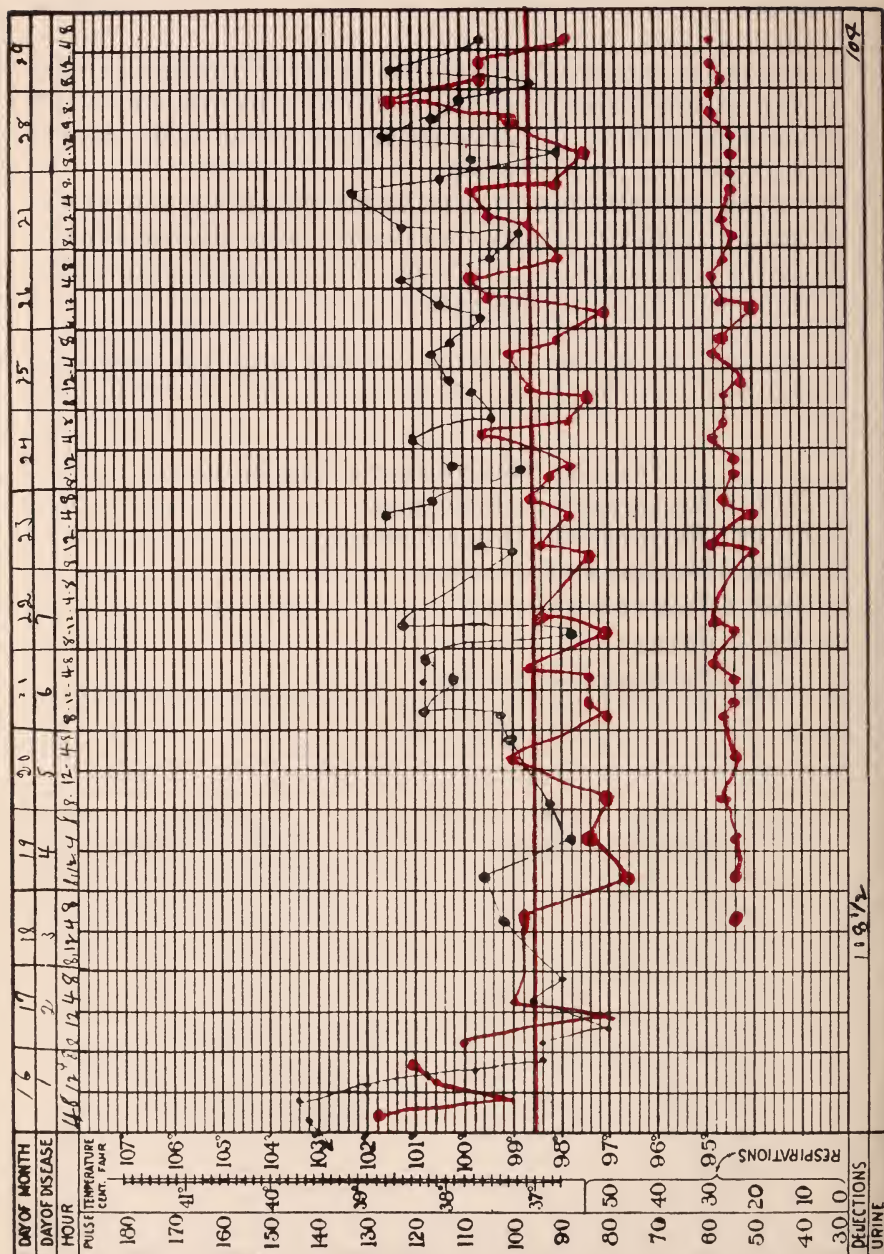


The right apex is contracted and the expansion is diminished at the left base.

Examination of December 23, 1912.

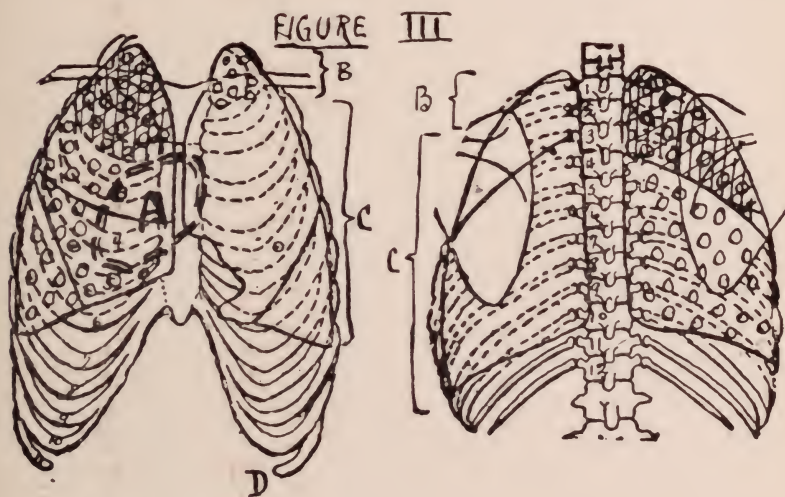


FIGURE II





Examination of his chest showed (see Fig. I) on percussion, a dull note anteriorly on both sides of his chest extending down to the second interspace with corresponding increase of vocal resonance and bronchial breathing. In the back the same condition existed down as far as the sixth vertebral spine on both sides. There were many râles on quiet breathing especially on the left side and posteriorly on the left side were heard a few pleuritic rubs. The sputum was positive and the albumen test "the usual moderate." Urine and blood examinations were negative. The blood pressure on fourteen readings averaged, systolic 122 mm., diastolic 57 mm. His temperature range was from 103.4 F. to 97 F., his pulse range from 128 to 76, and his respirations 28 to 20 a minute.



A=Area of cardiac dulness.

B=Normal resonance.

C=Tympany.

D=Spleen displayed below costal margin.

Right side.—Increased vocal resonance and bronchial breathing anteriorly and posteriorly. Râles on quiet breathing.

Left side.—Marked tympany at "C" with absence of breath sounds. Low amphoric fremitus with whispered voice. At "B" there is bronchial breathing and increased vocal resonance.

A glance at his chart (see Fig. II) will give the relation existing between his temperature, pulse and respiration at this time. Examination of his heart was negative. He had laryngeal tuberculosis and during this stay at the sanatorium his greatest discomfort seemed due to that complication. He left the sanatorium against advice December 30th.

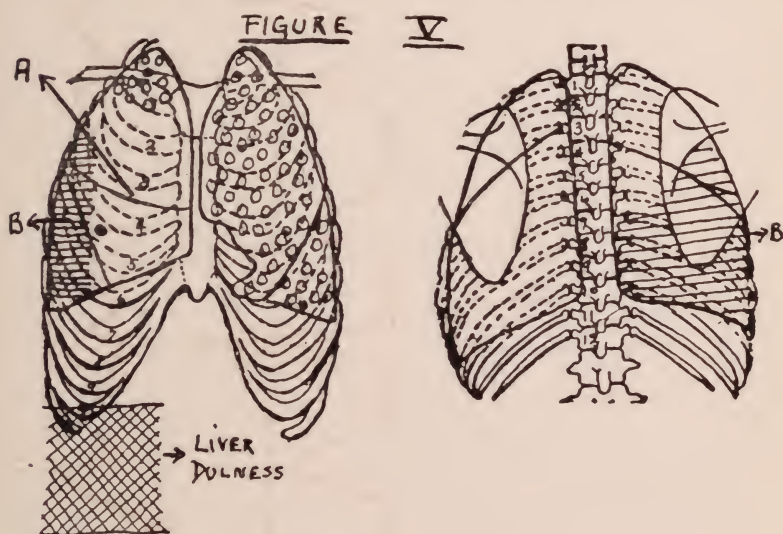
He was readmitted January 18th, 1913, in a very weakened condition, with some temperature, weak and rapid pulse and dyspnoea.



*Physical Examination* (see Fig. III).

On inspection the heart's apex beat could be seen on the right side just below and inside of the nipple. Percussion of the right side of the chest showed a condition existing similar to his first stay except that the area of cardiac dullness was shifted mainly to the right of the sternum. On the left side below the level of the second rib there was a markedly tympanic note with absence of breath sounds, but a low amphoric fremitus on whispered voice.

Above the second rib was found a resonant note with increase of vocal resonance and bronchial breathing. The spleen was palpable. During his stay his temperature ranged from  $100.4^{\circ}$  F. to  $95^{\circ}$  F., his pulse from 124 to 80, and his respirations from 44 to 22 to the minute. His chart



Patient in right lateral position.

A. Percussion note is hyperresonant from 2nd rib to area of liver dulness, except over fluid (B).

Left side of chest posteriorly not examined.

Examination of March 30th, 1912.

at this time (see Fig. IV) gives a combined picture of pulmonary tuberculosis and shock; a somewhat lower temperature with very marked variations and a very noticeable increased rate of pulse and respiration.

The points of particular interest in this case were:

I. He had no recollection of any acute onset of the trouble. The leakage of air into his pleural cavity had evidently been gradual so that the other lung was able to take up the work

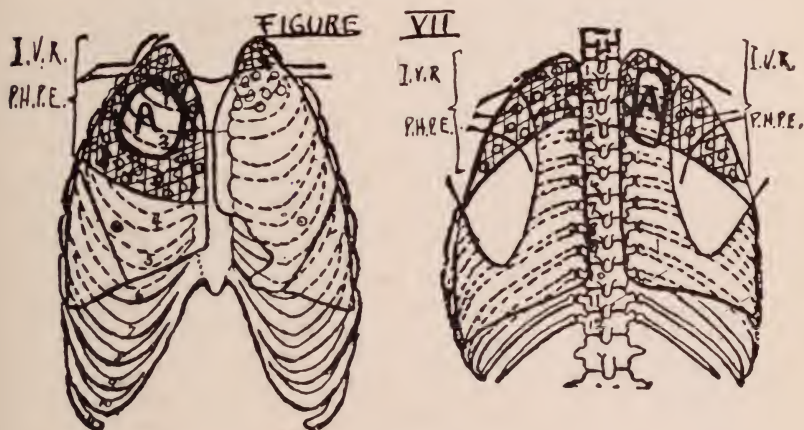






without great distress to the patient, although his dyspnoea was rather severe.

II. Above the second rib on the left side, above the area of tympany, the percussion note was resonant and normal. Over this area, however, existed marked increase of vocal fremitus and bronchial breathing. It seemed probable that this finding was due to the fact that while the lung generally had collapsed, it had been held by adhesions at this point and the air from the tympanitic area below had covered over that portion of lung to the extent that rendered the percussion note normal.



A-A=Cavity.

Râles after coughing only.

Examination of October 17, 1912.

III. The diaphragm on the left side seemed forced down a hand's breadth and the spleen was palpable. It was impossible to detect any signs of fluid in the pleural cavity at any time; no succussion splash, coin sound or metallic tinkle.

IV. The extreme displacement of the heart.

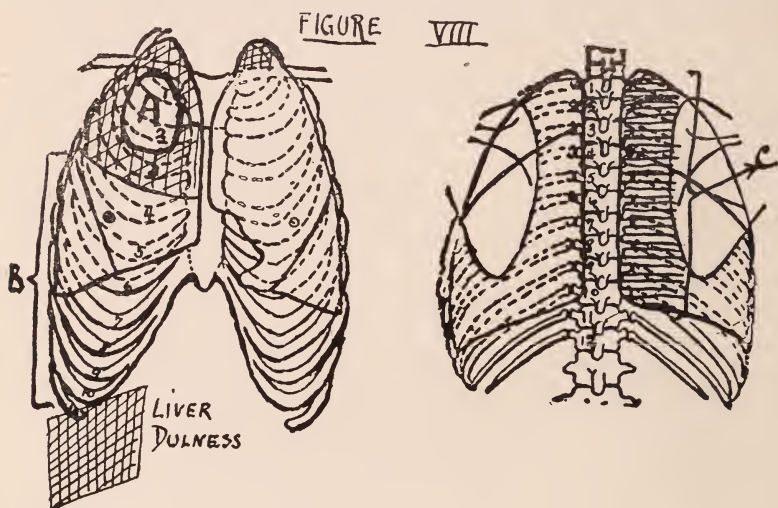
His condition became progressively worse and he died February 6th. No autopsy was obtained.

CASE II. Mr. O. C., age 35, iron molder. admitted March 25, 1912. Referred by Dr. Sharkey of Rensselaer.

On entrance his condition was feeble, with marked dyspnoea. He had had a hemorrhage and his sputum was positive.

Examination of his chest showed (see Fig. V), on inspection, no inspiratory excursion of chest on right side and only fair on left side, apex beat in 5th interspace four and one-half inches to left of mid-sternal line and three-quarters inch to left of nipple line, slight epigastric pulsation, depression below costal margin on both sides.

The pulse was rapid and feeble. The apex beat was forcible, but not felt during inspiration. No tactile fremitus was present due to feebleness of voice. The level of fluid on right side with patient in dorsal position was up the mid-axillary line. With the patient on left side the level of fluid was at the posterior axillary line. On auscultation the breath



A=Cavity.

B=Tympanitic percussion note from third rib to liver dullness.

C=Fluid. Patient in left lateral position. Tympanitic note except over fluid.

Examination of December 6, 1912.

sounds were feeble and over the level of fluid were absent. On the left side respiration was peurile in type and broncho vesicular to the third rib anteriorly. There were coarse bubbling rales heard all over the left side anteriorly and at the right apex. Over the right side with the patient in the dorsal position, from the second rib to the costal margin there was a hyperresonant note and the entire liver dullness was forced down below the costal margin. Posteriorly on the right side there was a flat note extending from the base upward to the level of the 5th vertebral spine.

The temperature chart (see Fig. VI) shows the same relationship between temperature, pulse and respiration as existed in Case I (Chart III).

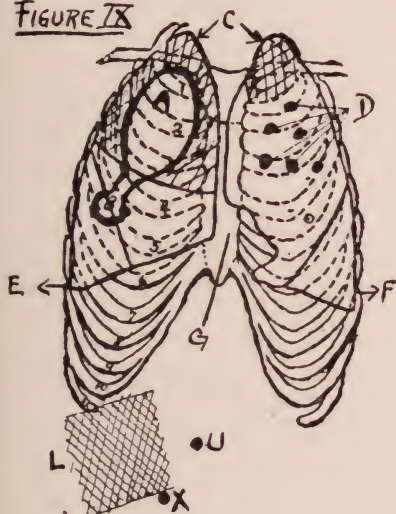
The diagnosis was obvious with the findings of hyperresonance, fluid, displacement of liver, feeble breath sounds and collapse.

He became rapidly weaker and died April 5th.

CASE III. Mrs. A. D., aged 31, French Canadian, housewife. Admitted October 16, 1912. Referred by Dr. Archambault of Cohoes, N. Y.

Examination of her chest (see Fig. VII) showed on the right side anteriorly, dullness down as far as the third interspace with all evidence of large cavity formation. On the left side in front above the clavicle there was a dull note with increase of vocal resonance and bronchial

FIGURE IX



Autopsy findings.

A=Large cavity connection with small cavity (B). Large cavity one-third filled with pus. Perforation from small cavity into pleural cavity which contains about twelve ounces of pus.

C=Consolidation.

D=Nodular areas of consolidation.

E=Base of right lung retracted.

F=Base of left lung normal.

G=Pericardium several times the normal amount of fluid.

U=Umbilicus.

L=Liver displaced downward.

X=Gall bladder.

breathing. Posteriorly, there were the usual signs of consolidation involving the upper part of both lungs. There was also an area of pectoriloquy on the right side, posteriorly. There were rales heard in front and back after coughing. Sputum and albumen tests were positive. Blood examination October 18th, showed Hg. sixty per cent, red cells 3,640,000 and white cells 15,200. An average of fifteen readings showed a systolic pressure of 118 mm. and a diastolic pressure of 68 mm.

For three weeks before the onset of pneumothorax her temperature was markedly improved, averaging 100°. Blood examination on November 10th showed haemoglobin, seventy-five per cent, r. b. c., 4,360,000 and on December 4th, haemoglobin, 80-90 per cent and w. b. c., 9,600.

On December 3d at 8 P. M. her temperature rose to 103.6°, pulse to 128. There was no change in respirations.

She complained of severe pain the following morning in the lower part of right side in the axillary and anterior axillary lines just above the costal margin. Adhesive straps were applied giving some relief. From

that time the pain was never agonizing, although morphine was given whenever necessary.

On December 5th the patient became cyanotic. This condition was intermittent from then on. On December 6th she became markedly cyanotic, the pulse 140 and irregular, respirations weak and shallow. Camphorated oil and strychnine given hyperdermatically and ice bag applied to heart with improvement in one hour.

Examination of chest December 6th (see Fig. VIII) with patient in left lateral position, showed the usual signs of consolidation on the right side down as far as the third interspace. Below this point there existed tympany as far as the costal margin where the liver dullness began. Posteriorly along the spinal column there was found a flat note on percussion and above the level of flatness a hyperresonant note. The coin sound was present. Complete physical examination of chest was not made because of the patient's extreme weakness. Blood pressure readings on December 6th showed a systolic of 65 mm. and a diastolic of 45 mm.

Through the night patient was very weak and was unable to raise sputum which collected in her throat. She died quietly December 7th.

Autopsy findings by Dr. Fox of Bender Laboratory (see Fig. IX) showed consolidation of both apices with nodular areas in the left lung below the area of consolidation. In the right lung was a large cavity partially filled with pus. The cavity was connected by a sinus with a smaller cavity, below and to the right of the former, in the lower portion of which was a perforation communicating with the right pleural cavity which contained about twelve ounces of free pus. The base of the right lung was markedly retracted and the liver was found to be below the costal margin. The pericardium contained several times the normal amount of fluid. The base of the left lung was normal.

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## THE ALBUMIN REACTION IN THE SPUTUM OF TWO HUNDRED AND TWENTY-EIGHT CASES OF PULMONARY TUBERCULOSIS.

By ERASTUS CORNING, M. D.,

*Attending Physician, Albany Hospital Tuberculosis Department.*

In 1909 H. Roger announced that the sputum of tuberculous patients would react positively to a simple test for albumin. Since then the literature on this subject has accumulated rapidly, as may be seen by the incomplete bibliography that accompanies this report.

The test is performed as follows: The sputum is mixed with an equal or greater bulk of water and thoroughly broken up by



stirring with a glass rod for several minutes. To this mixture is added a few drops of 3% acetic acid for the purpose of coagulating the mucus. The mixture is then filtered. To this filtrate may be added a few drops of a saturated sodium chlorid solution. If any cloudiness results, more acetic acid should be added and the mixture again filtered. When a clear filtrate has been obtained, it is placed in a test tube and the standard tests (heat and acetic acid, nitric acid contact test, etc.), applied, as for the detection of albumin in the urine.

Certain precautions should be observed. The sputum should be from the lungs and contain as little saliva or post-nasal secretion as possible. The test should always be made on fresh sputum. If allowed to stand for over six hours at room temperature, decomposition sets in and the value of the reaction becomes questionable.

A review of the available literature makes it evident that practical unanimity exists among all observers on certain points.

1°. A positive reaction may be expected in cases of pulmonary tuberculosis. Lawrason Brown (19), in a series of 116 cases from the Adirondack Cottage Sanatorium, finds positive results in 96%. He also reviews from the literature 1,374 cases in which 98% of positive reactions occur. Fishberg (5) Acs-Nagy (5), Levy-Valensi (14), Fullerton (11), Ritter (13), Gantz and Hertz (16), Raw (15) and others, find themselves in practical accord on this point. Scott (4) in a series of 85 cases, finds only 90% positive.

2°. Occurrence in other diseases. The test is positive in pleurisy with effusion, pneumonia and broncho pneumonia, active pulmonary congestion, pulmonary gangrene, cancer of the lung and bronchiectasis.

3°. The reaction is uniformly negative in acute and chronic bronchitis both with and without emphysema, and in lues of the lung and pleura. Roger (8) reports a negative reaction in 121 cases of acute and chronic bronchitis.

4°. Prognostic Value. Brown (19) and other observers note that the degree of reaction is proportionate to the severity of the case. In early cases the reaction may be absent at one time and present at another. It tends to disappear as the disease becomes quiescent, and will reappear during acute exacerbations.

This suggests another precaution to be observed in making the test, namely, that in suspected cases a single negative result should not be taken as final evidence.

Two of the authors consulted raise objections to the test. Goodman (9) suspected that occult blood might cause the reaction. He accordingly applied the Benzidin test to all the sputa in his series, and found occult blood in a high percentage. He therefore believes that the value of the albumin test has been overrated. He also reports four cases in which the Benzidin test was positive but in which no albumin reaction occurs. He offers no explanation of this. Scott (4) is inclined to consider the albumin test as of slight value because of its relatively low percentage of positive results (90 per cent), because the test is positive in diseases other than tuberculosis and because of the possible sources of error.

To recapitulate, the test is simple and quick, and the sources of error, once understood, are easily guarded against. It has a definite prognostic value, but its diagnostic value is limited. It is of less service in proving the presence of tuberculosis than it is in excluding it. Its chief value to the practitioner will probably come to lie in the differentiation between acute and chronic bronchitis and incipient tuberculosis. This is well expressed by Fishberg (5), who says "A negative reaction, when repeatedly found during several examinations from specimens of sputum carefully collected, excludes tuberculosis."

This test was incorporated in the routine admission examination at the Albany Hospital Tuberculosis Sanatorium about fourteen months ago, and the results given below are based on a study of 228 cases. The work was undertaken in order to find out whether the test was of sufficient diagnostic value to warrant its retention as a routine measure.

The cases have been grouped as follows:

*Class A.* Sputum contains Tubercle Bacilli:

Von Pirquet test recorded. 200 cases.

Incipient .....	27	(13.5%)
Moderately advanced .....	87	(43.5%)
Far advanced .....	86	(43.0%)

## Albumin Reaction.

Very slight .....	11	( 5.5%)
Slight .....	51	(25.5%)
Moderate .....	102	(51.0%)
Marked .....	33	(16.5%)
Negative .....	3	( 1.5%)

NOTE.—In this series of 200 cases of proven tuberculosis, the von Pirquet test was positive in 132 cases (66%) and negative in 68 cases (34%). The negative results were divided as follows:

Incipient .....	4	( 5.8%)
Moderately advanced .....	20	(29.4%)
Far advanced .....	44	(64.8%)

*Class B.* Sputum contains Tubercle Bacilli: No record of Von Pirquet test. 17 cases.

Incipient .....	1	( 5.9%)
Moderately advanced .....	7	(41.2%)
Far advanced .....	9	(52.9%)

## Albumin Reaction.

Very slight .....	2	(11.8%)
Slight .....	3	(17.7%)
Moderate .....	9	(52.9%)
Marked .....	3	(17.6%)
Negative .....	0	(00.0%)

*Class C.* Sputum does not contain Tubercle Bacilli:

Cases clinically tuberculous. 11 cases.

Incipient .....	4	(36.4%)
Moderately advanced .....	6	(54.6%)
Far advanced .....	1	( 9.0%)

## Albumin Reaction.

Very slight .....	5	(45.5%)
Slight .....	3	(27.3%)
Moderate .....	2	(18.2%)
Marked .....	0	(00.0%)
Negative .....	1	( 9.0%)

It is interesting to note that in Class A and Class B, where none but active cases are included, the albumin reaction is given

as "moderate" in the largest percentage of cases. In Class C, however, the "very slight" reactions furnish the highest percentage. The reason for this is that in Class C we find the sputum negative for tubercle bacilli, because only incipient cases, or cases progressing well on their way to recovery, are included. In such cases the albumin reaction, as already stated, may be slight, or absent.

In general, grouping all cases together, we find that the reaction in pulmonary tuberculosis, in a series of 228 cases, is positive in 98.2%, and negative in 1.8%.

The value of this series lies entirely in the fact that it confirms previous findings as to one phase of the problem, and offers additional evidence to prove that in cases of known tuberculosis the test is positive in 90% and upwards.

As regards the needs of the local situation, the test does not appear to offer enough diagnostic assistance to warrant its inclusion as part of the routine admission examination. Nearly all of our cases are proven tuberculous before admission, and the albumin test in such cases is of merely confirmative value. In the small percentage of dubious cases, where other diagnostic methods fail, the test is of undoubted value, and will be used.

I wish to record my appreciation of the assistance rendered by Drs. Edwards, O'Keefe, MacDuffie and Adams of the House Staff, Dr. G. Marcellus Clowe, serving as Voluntary Assistant, and especially Miss Susan A. Rundell.

October, 1913.

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## THE TREATMENT OF NIGHT SWEATS.

### A PRELIMINARY NOTE.

BY WESLEY M. ADAMS, M.D.,

*Interne, Albany Hospital, 1913-1914.*

The treatment of night sweats in pulmonary tuberculosis is of importance at all times, but nowhere is the need for effective measures more realized than in a sanatorium where relatively large groups of cases are seen. The Phipps Institute (Fourth Annual Report) states that sixty-five per cent of seven hundred and thirty-four cases observed in one year, suffered from night sweats. In four years' time, 61.42% of 3,733 cases presented this symptom.

The work covered by this report was undertaken in order to determine, if possible, the relative merits of three drugs in the control of night sweats, atropin, agaricin, and aromatic sulfuric acid. This report is published with much hesitancy owing to

the small number of cases studied. The short period of service in the tuberculosis department (three months) made it impossible to gather sufficient data to justify trustworthy conclusions. It is hoped, however, that the subject will prove of sufficient interest to stimulate others to continue the observations until a larger series of cases shall be available.

In this series, eighty-one cases were studied, and of these, fifty-one had night sweats. This gives a percentage of 62.9%, corresponding closely to the figures from the Phipps Institute. Of these fifty-one cases

- 8 or 15.68% were classed as incipient.
- 25 or 49.01% were classed as moderately advanced.
- 15 or 29.41% were classed as far advanced.
- 3 or 5.88% were not classified.

All of these cases were living under similar hygienic and dietetic routine.

Forty-nine patients were questioned as to the time when the sweats occurred. In five cases the sweats were irregular in appearance and occurred either by day or by night. Sixteen cases reported that their sweats occurred between bedtime and midnight, and twenty-eight cases had their sweats between midnight and morning.

In forty-six cases, the location of the sweat was noted, as follows:

Whole body .....	26
Chest and head .....	8
Trunk .....	3
Back .....	3
Extremities .....	2
Head .....	2
Trunk and head .....	2

In the majority of cases (24) the sweat was noted as severe, the next largest number had slight sweats and in the smallest number they were recorded as moderate.

Forty-six patients were studied with reference to the relationship if any that existed between the severity of the sweats and the stage of the disease.

In the incipient cases

- 3 were recorded as "severe."
- 3 were recorded as "moderate."
- 2 were recorded as "slight."

In the moderately advanced cases

- 13 were recorded as "severe."
- 5 were recorded as "moderate."
- 5 were recorded as "slight."

In the far advanced cases

- 8 were recorded as "severe."
- 2 were recorded as "moderate."
- 5 were recorded as "slight."

### *Agaricin.*

Five patients were treated with agaricin. The dosage was 1/12 grain given at 8 P. M. and in a few cases repeated at midnight.

Of the cases in this group, one was classed as moderately advanced and four as far advanced.

The results showed

Moderately advanced, controlled 1; not controlled 0.

Far advanced, controlled 0; not controlled 4.

### *Atropin.*

Nine cases were given atropin in dosage of 1/20 grain at 8 P. M., and in two cases repeated at midnight. Three cases were classed as moderately advanced and six cases as far advanced.

The results showed:

Moderately advanced, controlled 2; not controlled 1.

Far advanced, controlled 2; not controlled 4.

### *Aromatic Sulfuric Acid.*

Fifteen cases were included in this group: Incipient one, moderately advanced five, far advanced seven, unclassified two.

The dosage was ten drops at 8 P. M., repeated in six cases at midnight.

The results were:

Incipient, controlled 1; not controlled 0.

Moderately advanced, controlled 4; not controlled 1.

Far advanced, controlled 4; not controlled 3.

Unclassified, controlled 1; not controlled 1.

The patients receiving agaricin were under treatment with this drug for an average of fifteen days each. The group receiving atropin were under this treatment for an average of thirty-eight days, while those receiving aromatic sulfuric acid averaged but twenty days.

It has already been remarked that no trustworthy conclusions can be drawn from so few observations. From the data at hand it would appear that the best results have been obtained by the use of aromatic sulfuric acid, and whether this conclusion is justified or not by later studies, the work done so far indicates that the drug is of value and should be given a more extended trial.

A further study of the figures shows that the largest proportion of severe sweats occurred in the moderately advanced cases. If we explain night sweats on the basis that they are tuberculo-toxic phenomena on the part of the vasomotor system, and are in this way analogous to fever, etc., we should expect to find the most severe sweats in the most severe or far advanced cases.

This theory, however, does not accord with the facts at our disposal. But it is not at all certain that the tuberculous toxin alone is accountable for night sweats. We know that sweats occur in other toxæmias, notably those caused by the staphylococcus and the micrococcus catarrhalis. These organisms are frequently found as secondary infections in tuberculosis, less frequently in the incipient cases, but often in the moderately advanced and far advanced cases. Hence we might be justified in considering that sweats in tuberculosis are more the result of a secondary infection than of the primary tuberculous focus. As against this theory we have to confront the fact that sweats may be, and frequently are, resultant from the low blood pressure incident to fatigue or shock. On this basis, it is not unwarranted to assume that as hypotension is an essential part of the tuberculous process, that sweats are not so much symptomatic of tuberculosis, or of secondary infection, as they are of hypotension. This theory is further justified by our findings that the majority of sweats occur between twelve midnight and morning. We have no reason to believe that any toxin, tuberculous or otherwise, is more virulent at this period of the twenty-four hours, whereas we have ample proof that the blood



pressure is at its lowest ebb during these hours. These three hypotheses as to the etiology of the condition under discussion, and a further inquiry as to the most effective method of treatment, indicate the general lines along which it is planned to pursue the work.

In closing I wish to express my thanks to Dr. Erastus Corning for his assistance and encouragement.

January, 1914.

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## WEIGHT RECORDS OF FIRST ONE HUNDRED NURSES AT ALBANY HOSPITAL TUBERCU- LOSIS SANATORIUM.

By ERASTUS CORNING, M. D.,

*Physician to the Training School for Nurses, 1908-1913.*

In the spring of 1910, the Board of Governors of the Albany Hospital determined to establish a department devoted to the care of tuberculous patients. A site was provided by Dr. Howard Van Rensselaer, under whose direction the work had been started nearly a year previous. The location was admirable. Three miles from the main hospital, on a rise of ground, the soil is sandy and the surrounding country open. The nursing staff was drawn from the Albany Hospital Training School, the nurses going in rotation. From six to ten nurses were accredited to this department at a time. The Head Nurse, a graduate, was in charge. One nurse was sent from the Senior class and the remainder were drawn as equally as possible from the Intermediate and Junior classes. The average number of pupil nurses on duty is eight.

Here then, we have a group of nurses, taking as part of their training a work that removes them for a short time from the city to the country, from indoor work to outdoor life, in excellent hygienic surroundings, but, as will be seen, required to do work that in many ways is more trying than that performed by their companions.

The Albany Hospital, in all departments, cares for about three hundred patients daily. To care for them there are in training an average of one hundred nurses, or one nurse to every three

patients. In the Tuberculosis Department the average number of patients is seventy. Roughly speaking therefore, this group of nurses has to care for patients in the ratio of one nurse to every nine patients, three times the ratio that obtains through the hospital as a whole. As nearly fifty per cent of the patients admitted to the Tuberculosis Department are classed as "Far Advanced" cases, the number confined to bed is at all times high. As in other departments of the hospital, special demands are made on the nurses. It is a matter of prime importance to keep tuberculous patients under treatment for a sufficient length of time. The nurses can, and do, play a valuable part in the accomplishment of this end. Patience, tact and an ability to study the personality of each patient are required. A constant vigilance on their part is needed to enforce the precautions against contagion. The high mortality, inevitable among far advanced cases, coupled with the necessity of maintaining an atmosphere of cheeriness, makes no inconsiderable demand on the nurses' self-control.

The question naturally arose at the outset as to what effect, if any, these conditions would have on the physical condition of the nurses. On the one hand a healthy, outdoor life; on the other, harder work than that to which they had become accustomed, and of a most trying nature.

It was decided to weigh the nurses each week, taking this as the most accurate and available control of their general health. Before referring to the results, it is fair to consider that whereas the above mentioned conditions are permanent factors in the problem, there have been others of a transitory nature that have undoubtedly had their effect on the results so far obtained. During the period covered (the first one hundred nurses taking this training) there have been difficulties to meet which need not be expected in the future. For instance, until December, 1910, there were no accommodations for the nurses at the Sanatorium. That meant that the day and night nurses, reporting for duty at 7 A. M. and 7 P. M. had to make the trip from the main hospital twice daily. The distance to be walked from the main hospital to the car line is just under a half mile while the walk from the car line to the Sanatorium is over half a mile. Therefore in addition to their regular work, these

nurses walked two miles. Again, the isolation of the Sanatorium made it, especially in the earlier days, a difficult matter to obtain and keep help. Many times the nurses have been called on to cook and do the work of orderlies and ward maids. It is greatly to their credit that no nurse has ever refused the training, nor has any nurse ever resigned because of dissatisfaction with the conditions she found awaiting her. Also in the earlier days the equipment at the Sanatorium was insufficient to cook the amounts of food required by so many people, and much of the food was cooked in the main Hospital and sent out to be reheated and served. All of these things were inevitable at the time, and they have been remedied as rapidly as possible; but they were distinctly unfavorable elements in the situation as regards the gaining of weight. As an evidence of this it may be stated that of the last twenty-five nurses reported on in this series only four lost weight, whereas in the first twenty-five eight were recorded as losing.

Number who gained.....	61
Number who lost.....	35
Number remaining stationary.....	4
Total number of pounds gained.....	263.75
Total number of pounds lost.....	102.50
Average gain .....	4.32
Average loss .....	2.92
Greatest individual gain.....	18.75
Greatest individual loss.....	10.75
22 nurses gained 5 lbs. or over.	
6 nurses lost 5 lbs. or over.	
Average length of service 10.8 weeks.	
Average length of service of nurses gaining weight..	10.6
Average length of service of nurses losing weight....	11.4
Longest service 20 weeks.	
Shortest service 3 weeks.	

These results are suggestive rather than conclusive. In view of what has been said concerning the change in conditions, and the improvement shown by the last twenty-five nurses in the series, it is reasonable to look for more convincing figures from now on. There are, of course, other aspects to the question

of the physical condition of nurses under these conditions and the results noted along these lines are equally favorable, though they will not be considered at this time.

It is however, fair to assume, that any nurse taking this experience as a part of her training may reasonably expect to have her health benefited thereby.

October, 1913.

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## Editorial

Before reaching Port Famine, two men were seen running along the shore and hailing the ship. A boat was sent for them. They turned out to be two sailors who had run away from a sealing vessel, and had joined the Patagonians. These Indians had treated them with their usual disinterested hospitality. They had parted company through accident, and were then proceeding to Port Famine in hopes of finding some ship. I dare say they were worthless vagabonds, but I never saw more miserable-looking ones. They had been living for some days on mussel-shells and berries, and their tattered clothes had been burnt by sleeping so near their fires. They had been exposed night and day, without any shelter, to the late incessant gales, with rain, sleet, and snow, and yet they were in good health.

*The Voyage of the Beagle.*

CHARLES DARWIN.



**The  
Tuberculosis  
Sanatorium.**

This number of the ANNALS is devoted to communications from the staff of the Albany Hospital Tuberculosis Sanatorium. These papers, read in conjunction with the annual reports (Albany Hospital Annual Report, 1912; *ibid.*, 1913), furnish a comprehensive summary of the growth of the sanatorium, and of the lines along which development is taking place.

Starting less than five years ago in a small farmhouse and a few tents, with but one nurse and a small number of patients, the growth has been steady. Today in a modern, well-equipped hospital building, seventy patients are cared for by a medical and nursing staff that has grown in proportion. The physicians



of Albany and other places have been quick to avail themselves of the opportunity thus offered to have their patients given every advantage of the modern treatment of tuberculosis, and present-day indications point to a continued era of usefulness.

The Albany Hospital has acted wisely in creating this department, the physicians of Albany have given it their support, and the citizens of Albany have demonstrated their confidence in it. Albany is doing its share in the struggle against tuberculosis.

The series of papers presented in this issue of the *ANNALS* is highly creditable to the staff of the sanatorium, and speaks well for future contributions upon the diagnosis and treatment of tuberculosis, for which so excellent foundation of scientific observation is established.

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## Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, DECEMBER, 1913.

### *Deaths.*

Consumption .....	21
Typhoid fever .....	1
Scarlet fever .....	0
Measles .....	0
Whooping-cough .....	0
Diphtheria and croup .....	2
Grippe .....	2
Diarrheal diseases .....	2
Pneumonia .....	8
Broncho-pneumonia .....	4
Bright's disease .....	16
Apoplexy .....	13
Cancer .....	12
Accidents and violence .....	10
Deaths over 70 years.....	48
Deaths under 1 year.....	23
<hr/>	
Total deaths .....	175
Death rate .....	20.59
Death rate less non-residents.....	17.89

*Deaths in Institutions.*

	Resident	Non-Resident
Albany Hospital .....	11	5
Child's Hospital .....	1	1
County House .....	3	2
Homeopathic Hospital .....	3	2
Hospital for Incurables .....	0	2
Little Sisters of the Poor.....	0	1
Penitentiary .....	0	0
Public places .....	6	0
St. Francis De Sales Orphan Asylum.....	1	0
St. Margaret's House .....	5	2
St. Peter's Hospital .....	9	3
Austin Maternity Hospital .....	2	0
Albany Hospital, Tuberculosis Sanatorium.....	3	4
Labor Pavilion .....	0	0
Totals .....	44	22
Births .....	163	
Still Births .....	6	
Premature Births .....	4	

## REPORT OF VISITING TUBERCULOSIS NURSE.

Number of cases remaining.....	64
Number of new cases.....	10
Cases returned from hospital.....	2

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Total .....	76
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## Disposition of old and new cases:

Died .....	5
Sent to hospital .....	10
Left city .....	6
Remaining under treatment .....	55

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Total .....	76
Number of visits made.....	250

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive .....	11
Negative .....	18

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Total .....	29
Living cases on record December 1, 1913.....	320

## Cases reported:

By card .....	22	
Dead cases by certificate.....	9	
		31
Total .....		351
Dead cases previously reported.....	12	
Dead cases not previously reported.....	9	
Removed .....	7	
		28
Living cases on record January 1, 1914.....		323
Total tuberculosis death certificates filed during December.....		21
Out of town cases dying in Albany:		
Albany Hospital Tuberculosis Sanatorium.....		4
City tuberculosis deaths .....		17

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	4
Scarlet fever .....	8
Diphtheria and croup .....	22
Chickenpox .....	9
Smallpox .....	0
Measles .....	6
Whooping-cough .....	3
Consumption .....	32
Total .....	84

*Contagious Disease in Relation to Public Schools.*

	Reported D. S. F.
Public School No. 3.....	1 ....
Public School No. 8.....	1 ....
Public School No. 11.....	1 ....
Public School No. 12.....	2 ....
Public School No. 21.....	1 ....
Public School No. 24.....	1 ....
Albany Business College .....	1 ....
Holy Cross School .....	1 ....
St. Patrick's School .....	2 ....
Number of days' quarantine for diphtheria:	
Longest..... 36    Shortest..... 4    Average..... 14 18/19	
Number of days' quarantine for scarlet fever:	
Longest..... 6    Shortest..... 6    Average..... 6	
Fumigations:	
Houses .....	57    Rooms .....
	178

Cases of diphtheria reported.....	22
Cases of diphtheria in which antitoxin was used.....	21
Cases in which antitoxin was not used.....	1
Deaths after use of antitoxin.....	1

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive .....	21
Initial negative .....	188
Release positive .....	32
Release negative .....	107
Failed .....	12
Total .....	360

*Test of Sputum for Tuberculosis.*

Initial positive .....	13
Initial negative .....	24
Failed .....	2
Total .....	39

## BUREAU OF MARKETS AND MILK.

Public Market Inspections .....	22
Market reinspections .....	136
Fish market inspections .....	2
Packing house inspections .....	3
Rendering plant inspections .....	1
Slaughter house inspections .....	1
Hide house inspections .....	3
Milk depots inspected .....	14
Milk depots deficient .....	3
Milk wagons inspected .....	109
Milk wagons deficient .....	6
Milk cans inspected .....	120
Unclean cans .....	9
Ice cream factories inspected .....	3
Ice cream factories deficient .....	2
Commission houses inspected .....	5
Lactometer tests .....	189
Temperature tests .....	189
Fat tests .....	58
Below standard .....	2
Chemical tests .....	38
Negative .....	38
Sediment tests .....	54
Sediment found .....	47



Permits issued for stores .....	5
Stores inspected .....	55
Stores deficient .....	5
Notices served .....	7

MISCELLANEOUS.

Work certificates issued to children.....	20
Number of written complaints of nuisances.....	30
Privy vaults .....	1
Closets .....	6
Plumbing .....	6
Other miscellaneous complaints .....	17
Cases assigned to health physicians.....	63
Calls made .....	117

## Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR DECEMBER, 1913.—Number of new cases, 169; classified as follows: Dispensary patients receiving home care, 20; district cases reported by health physicians, 7; charity cases reported by other physicians, 55; moderate income patients, 75; metropolitan patients, 12; old cases still under treatment, 126; total number of cases under nursing care during month, 295. Classification of diseases for the new cases: Medical, 19; surgical, 13; gynecological, 4; obstetrical under professional care, mothers 43, infants 42; eye and ear, 3; throat and nose, 2; infectious diseases in the medical list, 43. Disposition: Removed to hospitals, 9; deaths, 13; discharged cured, 114; improved, 39; unimproved, 2; number of patients still remaining under care, 118.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 0; students in attendance, 0; nurses in attendance, 0; patients carried over from last month, 0; new patients during month, 0; patients discharged, 0; visits by head obstetrician, 0; by attending obstetrician, 0; by students, 0; by nurses, 0; total number of visits for this department, 0.

*Visits of Nurses* (all departments).—Number of visits with nursing treatment, 1,389; for professional supervision of convalescents, 840; total number of visits, 2,129; visits to pay patients, 625; to charity patients, 764; cases reported to the Guild by health physicians, and other physicians; graduate nurses, pupil nurses on duty.

*Dispensary Report.*—Number of clinics held, 77; new patients, 111; old patients, 364; total number of patients treated during month, 475. Classification of clinics held: Surgical, 13; nose and throat, 7; eye and ear, 12; skin and genito-urinary, 7; medical, 7; lung, 11; dental, 1; nervous, 0; stomach, 1; children, 11; gynecological, 7.

**ALBANY HOSPITAL.**—The annual report of the Albany Hospital recently issued shows that 4,816 patients were treated in the hospital the past year, an increase of 658 over the number admitted the previous year. The tuberculosis pavilion has been decidedly improved and the new nurses' home, which will accommodate 150 nurses, is being constructed.

**MEDICAL SOCIETY OF THE COUNTY OF ALBANY.**—The regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College, Wednesday, January 21, 1914, at 8.30 P. M. The following program was presented: "Saratoga Mineral Waters," Dr. A. W. Ferris; "Infections of the Accessory Nasal Sinuses," Dr. E. A. Stapleton. Both with lantern demonstration.

**MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.**—A regular meeting of the Medical Society of the County of Schenectady was held in the rooms of the Society, in the County Court House, Tuesday, January 13, 1914, at 8.30 P. M. Scientific program: "Address," Dr. W. F. Campbell, President of the Medical Society of the State of New York; "Diseases and Injuries of the Cornea, with Exhibition of Case," Dr. J. J. O'Brien.

**MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.**—The regular meeting of the Medical Society of the County of Dutchess was held at the Society's Library, 54 Market St., Poughkeepsie, Wednesday, January 14, 1914, at 3.30 P. M. The following program was presented: "President's Address for 1913," Dr. Lown; "Address on Public Health," by a member of the State Department of Health; "The Medical Inspection of School Law," Dr. Winslow.

**INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.**—The Twelfth International Congress of Ophthalmology will be held at St. Petersburg, Russia, from July 28 to August 3, 1914.

**CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.**—The fifth annual session of the Clinical Congress of Surgeons of North America will be held at London, England, during the week of July 27, 1914.

**MEDICAL SOCIETY OF THE STATE OF NEW YORK.**—The 108th annual meeting of the Medical Society of the State of New York will be held in New York City on April 28, 29, 30, 1914. Section meetings will be held each morning at the Hotel Astor, and every afternoon clinics at the larger hospitals.

**ALBANY MEDICAL COLLEGE, DEPARTMENT OF HYGIENE.**—Twelve lectures on public health subjects will be given to the students of the college by the representatives of the State Department of Health in conjunction with Dr. Rooney's course on Hygiene.

**NEW YORK STATE BULLETIN, DIVISION OF COMMUNICABLE DISEASES.**—November, 1913, gives the following report: Poliomyelitis, decreased prevalence; cerebrospinal meningitis, nineteen cases; cancer, increased diphtheria, decreased prevalence; measles, increased prevalence; ophthal-

mia neonatorum, nine cases; pneumonia, increased prevalence; scarlet fever, eight hundred twenty-nine cases; smallpox, seventy-three cases; tetanus, one case; tuberculosis, two thousand two hundred eighty-seven cases; typhoid fever, decreased prevalence; whooping cough, increased prevalence.

**CHILD INSURANCE.**—At a recent conference, the state succeeded in inducing the industrial life insurance companies to eliminate excessive insurance on the lives of children. Although the state law and the police contracts forbid excess insurance the evil has been underspread.

**DETROIT COLLEGE OF MEDICINE AND SURGERY.**—The College Building and newly equipped laboratories of the Detroit College of Medicine and Surgery were opened January 1, 1914.

**BILL TO STOP MERCURY SALES.**—A bill was introduced into the Senate by Senator Blauvelt on January 6, inserting in the penal law a new section prohibiting the sale of bichlorid of mercury except on the written prescription of a physician. The bill also requires that the drug shall be sold only in the form of green cubes and prohibits the refilling of prescriptions.

**LOCAL HEALTH BOARDS MAY NAME INSPECTORS.**—At the request of Dr. Eugene H. Porter, State Commissioner of Health, Attorney-General Carmody has rendered an opinion in response to the following inquiry.

"Is the appointment of the inspector of plumbing in cities of the third class vested in the board of health as provided in the general city law or with the health officer as provided in section 21 of the public health law as amended by chapter 559 of the laws of 1913?"

Mr. Carmody points out that the new health law "provides for the employment of persons and is, I think, intended to give the health officer power to employ persons as necessity may arise. The usefulness of such a power discreetly exercised in cases of necessity is readily recognized."

"It is my opinion, however," continues Mr. Carmody, "that the statute is not drawn in such a way as to indicate an intention to take from the board of health whatever appointing power upon the health officer, himself an appointee of the board. The inspector or inspectors of plumbing are spoken of in the statute as 'appointed.' They more resemble public officers than do the employees of the health officer. Something further is needed than the mere power given by the amendment of the public health law to the health officer to employ persons generally before it could be properly held that the power of appointment conferred by the general city law is lost to the boards."

**PERSONALS.**—Dr. JOSEPH A. CRAIG (A. M. C. '84), Albany, has resigned as health officer of the city of Albany and will devote his entire time to the teaching of anatomy in the College.

—Dr. ARTHUR SAUTTER (A. M. C. '94), Albany, has been appointed health officer of the city of Albany.

—Dr. FRED N. GUYER (A. M. C. '97), Albany, has been appointed assistant health officer of Albany.

—Dr. JOSEPH F. HARRIS (A. M. C. '06), of New York City, has been appointed physician in attendance at B. Altman's store, New York City.

—Dr. JOHN A. LYON (A. M. C. '08), Albany, has been appointed City Inspector of Contagious Diseases.

—Dr. MORRIS BELLIN (A. M. C. '09), Albany, has been appointed one of the district physicians.

—Dr. HENRY A. FARRELL (A. M. C. '10), formerly of Albany, is now located at Saranac Lake, N. Y.

—Dr. HENRY J. NOERLING (A. M. C. '11), has been appointed health officer of Valatie.

—Dr. FRED L. RITTER (A. M. C. '12), has moved from Turin, N. Y., to Pulaski, N. Y.

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DIED.—Dr. ISAAC S. BECKER (A. M. C. '56), died at his home in Altamont, N. Y., January 13, 1914, aged 83.

—Dr. OWEN F. McAVENUE (A. M. C. '87), died at Washington, D. C., January 8, 1914.

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## In Memoriam

DENNIS M. SMITH, M. D.

Dr. Dennis M. Smith died at his home in Cambridge, N. Y., on October 5th, 1913. He had been ill for several years, though seldom unable to give attention to business; a man of exceptional energy and determination, he refused to yield to infirmities. And though feeble in these late weeks, he went to Albany on October 1st, upon the death of his sister, and remained until after the funeral. He was brought home by his daughter, but was very ill. On the following morning he said he felt better, and under the influence of an opiate he fell asleep and appeared to have passed a comfortable night. Dr. Smith was born at Reading, England, in 1852; the son of Rev. Dennis and Rebecca Smith. They came early to this country and his father served an Episcopal church at Malone. He did not long survive and the widow took the family of little ones to Schoharie, where she set up her home. Dennis, as a young lad, entered the drug store of O. Throop & Son, and from there went to Cambridge early in the seventies and found employment as a druggist, not long thereafter establishing himself in the business, which with an interruption of only a few years, he followed. He later took up the study of medicine and graduated from the Albany Medical College in 1888. He had other business enterprises to which he was devoted and met the success of one diligent in business, investing his increase chiefly in village real estate and the erection of stores and houses. His town entrusted him with responsibilities, as justice of the peace, assessor, and health officer; faithful in these trusts, unobtrusive in life and devoted to his family and business unto the end. He is survived by his wife and two daughters, Mrs. John Stannard and Miss Mabel; two brothers and three sisters.



# ALBANY MEDICAL ANNALS

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## Original Communications

### FACTORS OF SAFETY IN THE TREATMENT OF FRACTURES.

*Read before the Monday Night Club.*

By JOSEPH LEWI BENDELL, M. D.

This paper is based upon the study of a series of 113 cases representing 135 fractures that have been personally treated by the writer. A large proportion of the cases were operated upon through the courtesy of Dr. E. A. Vander Veer, and represent the latter's private service among railroad employees. The smaller proportion are taken from the writer's service in the out patient department of the Albany Hospital, the South End Dispensary, and from private practice.

As stated above many of the cases represent fractures received by railroad employees. In the latter class of work, the treatment of the fracture, per se, in many instances is often complicated by the presence of crushing injuries, plus shock, so that in addition to the lesion herein discussed, we have been confronted with a multiplicity of lesions occurring in the same case.

The following table classifies the type of fracture in relation to the anatomy of the lesion and also shows the number of cases in each group.

*Skull*—4 (all basal in type).

*Malar bone*—1.

*Lower jaw*—1.

*Vertebrae*—1 (lumbar).

*Clavicle*—10.

*Scapula*—3.

*Sternum*—1.

*Ribs*—12.

*Humerus*—Head and anatomical neck, 1; surgical neck and shaft, 1; upper epiphysis, 1; surgical neck, 5; shaft, 2; internal condyle, 1; external condyle, 2.

*Radius and Ulna*—Shaft 4; Olecranon with head of radius, 1.

*Radius*—Head, 2; shaft, 7; Colles, 15; styloid, 1; lower epiphysis, 1.

*Ulna*—Olecranon, 2.

*Carpus*—1.

*Metacarpus*—1.

*Phalanges*—1.

*Femur*—Surgical neck, 7; shaft, 5; intra-condylar, 1.

*Patella*—2.

*Tibia and Fibula*—Shaft, 7; shaft and int. malleolus of tibia, 2; Potts, 4.

*Tibia*—Shaft, 3; malleoli, 2; internal malleolus, 3; external malleolus, 2.

*Fibula*—Shaft, 2.

*Os Calcis*—2.

*Astragalus*—2.

*Cuneiform*—1.

*Metatarsus*—1.

*Phalanges*—6.

In discussing certain factors of safety in the treatment of fractures, I shall limit myself to a consideration of three topics.

1. Preliminary treatment of open fractures.
2. Operative treatment of irreducible shaft fractures by means of the bone plate.
3. Importance and necessity of radiograms in the diagnosis of fractures.

#### I. PRELIMINARY TREATMENT OF OPEN FRACTURES.

Simplicity in general surgical technic, embodying ideas of wound disinfection, has reached a stage where the broad general principles of immunity and infection can be directly applied to bedside conditions. In no field of operative procedure, is this more marked at the present time, than in our modern conception, and scientific treatment of open fractures. Every open fracture represents a potentially infected wound.

On the one hand we may have a direct infecting agent, pro-

duced by the driving into the wound of micro-organisms from the skin, from particles of dirt, bits of clothing, and from the object producing in itself the fracture. Secondly, bruised and lacerated tissue, with its lessened capacity to resist infection (bone itself has low microbic resistance), offers a splendid medium for the growth of infective agents. If infective material has been driven into a many-pocketed wound, as is the case in an open fracture, undue manipulation on the part of the surgeon will not dislodge the offending agent. On the contrary the chances are greatly in favor of driving the material still more deeply into the wound with its many recesses. In addition, in the very act of attempting to perform the latter feat, manipulation of the parts still further reduces the resistance of devitalized tissue, and adds to the danger already present.

The practical application of the above lies in the fact that older methods of scrubbing with soap and brush, douching with solutions of alcohol, bichloride of mercury, etc., find no place in the modern treatment of open fractures. As little handling of the parts as possible. Cautious exploration under the strictest aseptic precautions. Careful trimming of lacerated wound edges. Removal of protruding bony projections. Above all, direct contact with instruments and not with fingers. These are essentials.

It has been my custom of late, to dispense with the use of any form of antiseptic solution with the exception of Tincture of Iodine. The latter is lightly painted on the wound by means of a sterile swab, particular attention being devoted to the skin surfaces. Care is exercised to use separate swabs for the wound itself and the surrounding skin.

The revival of the use of iodine as a germicide in the sterilization of all operative fields, finds no wider opportunity of usefulness than in its application to open fractures. Its use alone, as described above, in this field of work has met with success on the part of many. Wounds that under the older methods of treatment, were almost certain to become infected when treated by means of a vigorous preparation in the way of sterilization have shown splendid post operative results, when subjected to a more rational and scientific method, as outlined above.

From what has been said it can be seen that delay in the actual operative treatment of an open fracture is often to be commended, that is to say, expectant treatment is to be urged,

rather than reduction and immobilization of the bony fragments. The reduction of the fracture per se, is secondary to the avoidance of infection. The former is not an emergency measure by any means, whereas prophylactic means are paramount from the time the case is first seen.

The subject of the treatment of open fractures, cannot be dismissed without a reference to the administration of tetanus antitoxin. Although no surgeon who considers himself worthy of the name, would think of omitting the administration of tetanus antitoxin yet its use is by no means as general as it should be. The all too frequent occurrence of tetanus, following the open fractures, as seen in some of our general hospitals, is proof of the fact. More general use of tetanus antitoxin is to be urged upon all physicians. My own experience has taught me that there is still a large field for missionary work in this direction. It would seem as if such a statement were unnecessary, nay even ill timed, in this age of medical prophylaxis, and yet I feel confident that the experience of almost every surgeon engaged in this class of work will bear witness to the contrary. A standing order for all surgical house officers should be, administration of tetanus antitoxin as a matter of routine in all cases of open fracture.

## 2. OPERATIVE TREATMENT OF IRREDUCIBLE FRACTURES BY MEANS OF THE BONE PLATE.

Certain types of fractures, at the present time, call for the use of the open method of treatment. Since the introduction and popularization of Lane's method we are hardly justified in accepting results that formerly were considered satisfactory. Fractures of the shaft of the femur with a small degree of shortening and fair functional result, can no longer be considered satisfactory from the standpoint of a surgeon who would consider himself as abreast of the times as an operator in this or for that matter in any other field of surgical endeavor. That which holds true of the femur naturally can be applied to other bones as well, so that we may apply like conditions to the arm as well as to the leg. As a general proposition, the surgeon of the present era, who has to deal with shortening of any of the long bones that cannot be successfully reduced by means of the





FRACTURE OF SHAFT OF FEMUR. MARKED "OVER RIDING" OF FRAGMENTS  
UNSUCCESSFUL REDUCTION BY CLOSED METHOD.



FRACTURE OF SHAFT OF FEMUR. APPPOSITION OF FRAGMENTS FOLLOWING APPLI-  
CATION OF PLATE AND SCREWS. SLIGHT "BUCKLING" OF PLATE DUE TO  
MUSCULAR TENSION EXERTED ALONG LINE OF FRACTURE.

To Illustrate Dr. Bendell's Article on "Factors of Safety in the Treatment of Fractures."

*Albany Medical Annals, March, 1914*



FRACTURE OF HUMERUS SHOWING COMPLETE SEPARATION OF HEAD OF BONE WITH INWARD ROTATION OF LATTER. UPWARD AND OUTWARD ROTATION OF SHAFT.



INSERTION OF SILVER WIRE JOINING FRACTURED FRAGMENTS (HEAD AND SHAFT). SMALL PORTION OF SHAFT REMOVED BY GIGLI SAW BEFORE APPROXIMATION ACCOMPLISHED.

To Illustrate Dr. Bendell's Article on "Factors of Safety in the Treatment of Fractures"

*Albany Medical Annals, March, 1914*



FRACTURE OF CLAVICLE SHOWING MARKED SEPARATION OF FRAGMENTS



REDUCTION OF FRACTURE BY MEANS OF BONE PLATE AND SCREWS.

Reproduced by courtesy of *Annals of Surgery*, December, 1912.





older methods of treatment, should be equipped to undertake reduction, and approximation by means of open operation. I use the word, successfully, not in the sense of partial success, but the success that at the present time may be accomplished through a modern and scientific surgical procedure, namely, the use of bone plate and technic such as described and practised by Arbuthnot Lane, whose work along these lines has been of such great value. It is true that modifications of the latter's original reports have been substituted, but in general, Lane is the pioneer who blazed the trail and to whom we owe advances in this branch of work.

In the use of this method Lane has insisted upon the most rigid asepsis if successful ultimate results are to be obtained. And herein lies the great danger in the operation. Take, for example, once more the femoral shaft. The latter in order to be brought into the operative field must of necessity be approached through thick layers of fascia and muscle, rich in blood. Hemorrhage is apt to be an embarrassing complication. The soft tissues have already suffered a certain amount of damage because of the pre-existing trauma. Hence, conditions are favorable for the growth of micro-organisms that may already be present and thriving in decomposing blood clots, and lacerated muscle, tendon, or fascia, not to speak of osseous tissue with its low normal resistance, to which is now added a lesion in the form of fracture.

He who would operate on this class of cases must consider carefully all these factors and strive for the most absolute asepsis, if he aim at results.

In general I am inclined to the belief that it is best to wait at least a week or ten days following the initial fracture before operating. Hematoma is often resultant upon injuries of this character, and its presence always adds to the danger of a post operative infection. Absorption of blood clot parri passu with tissue reaction offers a more favorable outcome and this can best be obtained through a postponement of operative attack.

### 3. IMPORTANCE AND NECESSITY OF RADIOGRAMS IN THE DIAGNOSIS OF FRACTURES.

To anyone who is familiar with fracture work, must come the thought of the relatively large number of unrecognized fractures

that are daily being treated for sprains, bruises, etc. In other words the general use of the radiogram in the diagnosis of conditions in which fracture is suspected, is not nearly as universal as it should be. This, I take it, is due to either one or both of two conditions. Either the general practitioner into whose hands many of these cases first come, fails to recognize the importance of this step in the diagnosis of the condition or he is unwilling to subject his patient to the extra fee entailed which thereby lessens his own monetary reward. When we consider the large percentage of malpractice suits that are dependent upon fracture work, it is surprising that so many have the temerity to treat cases of this nature unfortified with a radiograph. A case well illustrating this condition is as follows:

N. B., a railroad brakeman fell from a ladder injuring his right foot and ankle. On getting up from the ground he walked with difficulty, and was conscious of the fact that his foot and ankle were swelling. He was treated in a well equipped hospital for one week with hot packs and massage at the end of which time, feeling that he was getting no better he returned to his native city, where I saw him at his home. At that time the right foot and ankle particularly the latter, presented marked oedema. He limped painfully, using a cane. Pressure over the foot and ankle elicited pain. He was asked if a radiogram had been taken, to which he replied in the negative, saying that the doctor wanted one taken but that the machine was out of order. I advised his removal to the hospital, strongly suspecting a fracture. The following morning the foot and ankle were radiographed, the picture showing a fracture of the external condyle of the tibia.

The above example illustrates certain points that should be strongly emphasized. Granting that it was possible to obtain a radiogram in this particular case, nevertheless one who has seen any number of like injuries, knows that symptoms as the above are strongly suspicious of fracture. It is far better under such conditions to treat for fracture on the assumption that the latter condition is present, rather than trust to the chance that a less serious lesion exists. I am sure that a case such as the above is not a rarity, but on the contrary one that is not infrequently encountered. Its results may be far reaching and disastrous for both patient and physician.

## DISEASES OF THE NASAL ACCESSORY SINUSES.

*Read before the Medical Society of the County of Albany, January 21, 1914.*

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In presenting the subject of the diseases of the nasal accessory sinuses, I believe it advisable to give a concise description of the same: First, from the anatomical standpoint, to make clear to physicians not specializing in this work, some features that must be known to get a correct idea of sinus disease, covering the size, shape, capacity, location, point or points of drainage, boundaries, and measurements; second, the histology and pathology of the sinuses; third, the symptoms and complications; fourth, histories of cases presenting lesions of the different sinuses.

*Frontal Sinus.*—The frontal sinus is located in the squamous portion of the frontal bone. Its lower wall is formed by the orbital plate; its medial wall, by a septum; posteriorly, incisura ethmoidalis; in front by the super-orbital portion of the frontal bone. The frontal sinus varies greatly in size and shape, in different individuals. The posterior wall is very thin. If the frontal sinus is filled with pus, either the orbital wall or the cerebral is the first involved. Bulging of the anterior wall is due to a periostitis. Before operating on this sinus, it is important to know its size and shape, which should be determined by an X-ray examination. The frontal sinus empties into the middle meatus, through the naso-frontal duct and hiatus semilunaris. The naso-frontal duct varies in length from one-eighth to one-half an inch. The blood supply is from the sphenopalatine artery.

*The Maxillary Sinus.*—The maxillary sinus is in the maxillary bone. It is like a pyramid; the base being the side of the nose; the sides are the canine fossa, the orbital plate of the superior maxillary, and the infratemporal or pterygo-maxillary fossa. The capacity of the maxillary sinus varies from ten to sixteen cubic centimeters. The nasal wall is the most important containing, as it does, the opening into the sinus. It is first to bulge when pus is present in this sinus because of its thinness. In washing out the sinus, punctures are made through this wall.

The anterior wall or canine fossa is of next importance. It is through this wall that the radical operation on the sinus is performed. This cavity is the most frequently diseased of all the sinuses. It is involved in chronic conditions of the nose, on account of poor drainage. Two teeth project into this sinus; the first molar, and the second bi-cuspid. In former years it was the practice to wash out through these places after extracting a tooth. Ten per cent of the cases of maxillary sinusitis are caused by the teeth. The influenza bacillus is said to cause the other ninety per cent. When a tooth is the cause of the trouble, the odor from this region is very foul. Frequently when the tooth is extracted and the sinus is opened, it is difficult to have it closed. Symes, in 1881, was the first to discover that maxillary sinusitis was caused by a tooth. Oftentimes the root of the tooth is covered by the mucous membrane of the sinus, or a very thin layer of bone may separate the tooth from the sinus. When the tooth is inflamed, abscess formation existing at the end, will break through into the sinus along the nerve canal, vein, and artery. Cysts of this sinus often cause bulging of the face. Two kinds exist; the mucous membrane, and the dental. The mucous membrane cyst comes from the glands of the mucous membrane, and may be as large as a walnut. When a puncture is made into one of these cysts, fluid will come out of the needle as the fluid is under pressure. Of the dental cysts there are two types; the congenital and the inflammatory. The congenital type comes from the mucous membrane of the dental sac which is left, if the permanent tooth grows while the milk tooth remains. This sac may grow up into the antrum causing a prominence, or it may grow forward into the canine fossa. If a puncture is made and water forced through, a resistance is met, and the water will come back through the puncture. The inflammatory type of the dental cyst comes from a root abscess surrounded by bone. The opening of the maxillary sinus lies in the anterior superior portion of the sinus, at the junction of the superior and internal walls. Occasionally an accessory opening is present. It is usually situated posteriorly to the normal opening in some part of the pars membranacea.

*Anatomy of the Ethmoids.*—The ethmoidal labyrinth has the shape of a box, and is developed from five plates; laterally is the lamina papyracea; above, the cribriform plate. The plates



of the ethmoidal sinus are: first, the unciform; second, the bulla ethmoidalis; third, the middle turbinate which separates the anterior from the posterior ethmoidal cells; fourth, the superior turbinate; and fifth, the anterior wall of the sphenoid. These plates are crossed by partitions which form the ethmoidal cells. Between the first two plates (the unciform and the bulla ethmoidalis) is a space called the hiatus semilunaris, into which the frontal sinus empties at its upper end. The posterior end of the hiatus semilunaris ends in a deep furrow, the maxillary opening coming in from the side, a little distance from its posterior extremity. The openings of the anterior cells are variously situated. One, however, is practically constant, being situated between the bulla and the middle turbinate. The blood supply is derived from the sphenopalatine branch of the internal maxillary artery, and the anterior and posterior ethmoidal arteries. The sphenopalatine artery supplies the floor of the sphenoid sinus. The ethmoidal arteries supply the ethmoidal capsule and the anterior portion of the lateral nasal wall. The openings of the posterior ethmoidal cells are in the superior nasal passage. The number of cells in each labyrinth varies; the lowest number being three, the highest, twelve. Each cell has a separate outlet, although some may empty into others. The total capacity of the entire labyrinth is about ten cubic centimeters.

*The Sphenoidal Sinus.*—The sphenoidal sinus occupies the body of the sphenoidal bone. It is cuboidal in shape, and is divided into two cavities by a septum. Its capacity is about six cubic centimeters. The posterior wall is grown to the occipital bone, in the first year of life. It is a cartilaginous synchondrosis, being called the sphenoccipitalis synchondrosis. The inferior wall forms the roof of the naso-pharynx. Here, adenoids are formed. The pharyngo-palatine artery traverses the outer angle of this surface, and if wounded will give rise to severe and sometimes fatal hemorrhage. The superior surface has very important organs overlying it. Anteriorly in a groove, rests the optic chiasm. The foramen opticum is often separated from the sinus by a thin layer of bone. As a result, we frequently have cases of blindness following an acute inflammatory condition of this sinus. This condition was formerly called optic neuritis rheumatica, the optic nerve becoming oedematous. Posterior to the optic chiasm are

the coronary sinus and pituitary body in the sella turcica. The pituitary often becomes inflamed through the sphenoid, and the inflammation extends into the brain. The pituitary body is divided into two parts, having an anterior and a posterior lobe. The anterior lobe is made up of glandular tissue. The posterior lobe is a part of the brain stem. The lateral wall of the sphenoid is important as it contains a groove, the sulcus carotiditus, in which lies the carotid artery with the sinus cavernosus. The relation of the sinus cavernosus and the carotid artery to the sphenoid sinus is important, as it shows why the pus in the sinus may pulsate at times. In removing the pituitary body, one cannot go laterally away from the median line, as these important structures will be injured. The anterior wall contains the sinus openings. These are seen only when the septum is greatly deviated, or in cases of atrophic rhinitis. The way to find the opening of the sphenoid sinus was first given by Zuckercandl of Vienna, in 1892. This opening lies in a pocket, forming the recessus sphenoidalis. The distance from the anterior nasal spine to the body of the sphenoid is seven centimeters. When a probe is passed further than this, the cavity of the sphenoid has been entered. The anterior wall of the sphenoid is divided into two parts; the free or nasal is about one-third, and the covered or ethmoidal occupies about two-thirds. The anterior wall of this sinus is called the concha bullosa or fifth fundamental plate of the ethmoids.

*Anatomy of the Lateral Wall.*—Upon examining the lateral wall of the nose, one will note it has the appearance of a square. In the ordinary adult's head, the roof measures about six centimeters; the floor about six centimeters. The depth from the roof to the floor is about five centimeters. On this wall can be seen three turbinates; the inferior, middle, and superior. The middle and inferior are about four centimeters in length; the superior is about two centimeters. The average thickness of the turbinates is about three-fourths of a centimeter. The inferior margin of the middle turbinate corresponds to a line, half way between the cribriform plate and the floor of the nose. The middle turbinate usually overlies the uncinate process and the bulla ethmoidalis. Between these two structures lies the hiatus semilunaris or infundibulum. The inferior turbinate has in front, a process called the processus lachrymalis. It closes the

lachrymal canal, helping to form the canalis lachrymalis. The lachrymal duct empties underneath the inferior turbinate. The anterior end of the inferior turbinate is connected with the maxillary bone. The inferior turbinate is rough on its convexity, and smooth on the concavity. The convexity carries many small veins and arteries. It articulates with the lateral wall of the nose by a broad base, which forms a part of the lateral wall. High up underneath the middle of the inferior turbinate is the site of puncture, through which we wash out the maxillary sinus. The palatine bone covers the posterior half of the lateral wall. It has a horizontal and a vertical portion. The vertical portion has two ridges; one for the insertion of the lower turbinate, the crista turbinalis, and one for the middle turbinate, the crista ethmoidalis. The pterygoid process of the sphenoid enters into the posterior formation of the lateral wall. Anterior, the lateral wall is formed by the maxillary and lachrymal bones. The ethmoidal portion of the lateral wall fills in the remaining space that exists, and consists of; the uncinatè process, the bulla ethmoidalis, middle and superior turbinates, and ethmoidal capsule. The lachrymal bone lies between the frontal process and the lamina papyracea of the ethmoid. It is important as it is the landmark for the operation on the ethmoidal cells by the orbital root. The lateral nasal wall has three passages; the inferior, middle, and superior. The inferior lies between the insertion of the inferior turbinate, and is limited below by the floor of the nose. The middle nasal passage lies between the insertion of the inferior turbinate and the middle turbinate, where it joins the ethmoidal capsule. The superior nasal passage is simply a slit in the ethmoidal capsule, but it is important as it contains the openings of the posterior ethmoidal cells. The olfactory fissure extends from the anterior superior insertion of the middle turbinate to the anterior wall of the sphenoid. The superior boundary is formed by the cribriform plate; its lateral boundaries by the superior and middle turbinates externally, and the septum internally. Pus from the posterior group of sinuses (the posterior ethmoidal, and the sphenoidal), discharge their contents into this space when diseased. When the anterior group of sinuses (the frontal, anterior ethmoidal, and maxillary) are diseased, the contents are discharged into the middle meatus.

*Histology and Pathology of the Sinuses.*—The lining mem-

brane of the sinuses is practically the same in all. The ethmoidal cells presenting some difference. The cross-section shows ciliated epithelium. Underneath the epithelial layer are blood vessels and glands. The glands are not so numerous in the sinuses as in the respiratory tract. The maxillary sinus which is often involved, shows the greatest change in the membrane when diseased. Oftentimes the mucous membrane of this sinus will be six or eight times its normal thickness; large masses of polyps existing in the sinus, with quantities of cheesy fetid pus. The inflammatory processes of the sinuses are classified as acute and chronic. When the mucous membrane is first infected, we have the stage of engorgement and hyperemia, due to the exudate into the tissues. The swelling encroaching on the cilia often stops their movement, and they are unable to throw off the secretions which collect. This exudate is made up of the following: serum, mucus, leucocytes, and epithelium. Germs may or may not be present. If resolution sets in, the secretion may subside and finally cease entirely. In acute conditions the mucous membrane is swollen, cells are filled with lymph, have a round cell infiltration and hemorrhages in spots, and blood vessels engorged. In cases becoming chronic, the round cell infiltration penetrates the deeper layers until the bone is reached, causing pressure with ulceration, or the mucous membrane is thickened from the overgrowth of fibrous tissue, the lining membrane losing its ciliated epithelium is changed to the squamous type, and destruction of the glands take place. Chronic inflammation may be hyperplastic or ulcerated. In the hyperplastic type we have polyp formation, thickening of the connective tissue, and retention cysts occur. Ulcerative type occurs when the deeper layers of the mucosa, which are in intimate connection with the periosteum are involved. Ulceration of the bone usually takes place at the same time as ulceration of the mucous membrane, especially when the infecting agent appears to be virulent.

*Bacteriology of the Sinuses.*—Hajek thinks that the primary infection in cases of sinusitis is caused by grippe bacillus first; the diplococcus pneumonia, second; and third the staphylococcus aureus and albus. Usually after an infection by the grippe bacillus the mucous membrane is swollen, and the outpouring of leucocytes with the formation of pus takes place. If the drainage is poor owing to some malposition of the sinus opening or



an obstruction to same, this pus may collect in the sinuses. The vitality of the part being lowered, secondary infection takes place. The predominating organism in most chronic sinus cases is the staphylococcus pyogenes aureus. Bacteria are not found in healthy sinuses. The cilia of the epithelium seems to be able to expel them, and the secretion of the glands in these parts is said to be able to keep the growth checked. It is not definitely known whether the mucous membrane of the sinuses is affected at the same time as the Schneiderian membrane, in an acute attack of coryza, or whether the inflammation follows secondary and is transmitted through the ostium. Most men believe that the sinuses are involved at the same time, perhaps not so severely. Other diseases like typhoid, tuberculosis, small-pox, measles, etc., are frequently followed by sinus diseases. Foreign bodies, as tampons left in the sinuses or in the nose, injury of the face, with secondary sinus involvement, and extension of inflammation from diseased teeth may incite disease; or one sinus may become infected from another.

*Why does an acute Sinus condition tend to become chronic?*—First, on account of interference with drainage, as caused by a high deflection of the septum, an enlarged bulla, close approximation of the middle turbinate with the lateral wall of the nose, polypoid swelling, and hypertrophies. Second, the virulency of the attacking germ and the reaction of the patient to the infection. Third, the failure of the mucous membrane to regenerate after frequent attacks of an acute condition. Chronic sinus disease is much more common than is supposed. Autopsies done immediately after death show the sinus to be involved in twenty-two to forty per cent of all cases, regardless of the cause of death. In cases of pneumonia and influenza, the percentage is far above these figures.

*Symptoms of Sinus inflammation.*—Headache, the most common of all the symptoms of sinus diseases, is the least understood. Hajek says, "that many patients with sinus disease and slight nasal symptoms, go through their entire lives with a diagnosis of chronic headache; taking all kinds of cures as electro and hydro-therapy, sea-baths, body massage, etc." I might add that these patients are given migraines by the millions; they have their eye-glasses changed from one to a dozen times; all kind of muscle operations performed; and may have been treated

for stomach trouble, nervous, and female conditions. The cause of the headache may be due to ulceration of the mucous membrane with an involvement of the nerves; contact of the swollen mucous membrane; negative pressure in the sinuses; and absorption of toxins from the sinuses. The headache varies in character from a heavy full dull feeling to an acute neuralgia pain. In some cases the pain appears to come back at certain times during the day; in other cases may go for days or weeks without headaches, and then return with great severity. These headaches are usually intensified by excesses in alcohol and tobacco, jarring, stooping, etc.

*Localization of pain.*—In acute sinus disease pain is localized to a certain extent, and is of some value in telling the sinus involved as in acute frontal sinusitis. In chronic maxillary sinusitis the pain is referred to the frontal region. Chronic ethmoidal sinusitis may have the pain between the eyes, over the frontal region, and on top of the head. In chronic sphenoidal diseases, the pain may be on the top of the head, in the back of the head, or through the mastoid region. The location of pain, therefore, will not aid materially in locating the sinus diseased. A headache which is relieved by steam inhalations, or catarrhal preparations containing menthol or cocaine, is probably due to a sinus or nasal condition; as all of these things help the sinuses to drain. A second symptom of sinus disease is the presence and continued reappearance of pus in patients usually suffering from catarrh.

*Complications.*—One of the most important complications with which we have to deal in connection with the accessory sinuses, is the involvement of the optic nerve. This involvement often takes place in diseases of the posterior ethmoidal or sphenoidal sinuses. Under such conditions may have anything from a partial to a complete loss of eye sight, which is due to an extension of the inflammatory condition from the sinuses to the nerve. Frequently in doing dissection, we find that the layer of bone or tissue existing between the sinuses and the nerve is very thin. Knowing this anatomical feature, one can readily understand why this takes place. Another complication is an orbital abscess, which occurs by extension from the ethmoidal region through into the orbit. A third complication is the abscess and fistula formation taking place about the internal angle of

the eye, due to a frontal ethmoidal suppuration. Cases of thrombosis of the central vein of the retina and cavernus sinus have been reported. I have seen one case with a loss of accommodation, resulting from a posterior ethmoidal condition, which rapidly cleared after operation. Conditions with which one meets frequently are those due to the discharge of pus over certain regions as the pharynx and the larynx. In any of the sinus involvements where there has been a discharge of pus for any length of time, a condition arises which is called pharyngitis sicca. The throat develops a varnished-like appearance. Numerous cases of laryngitis sicca are due to a similar condition. While in the Chiari clinic in Vienna, two of these were noted. One patient about twenty-five years of age, a student in the University of Vienna, had been complaining of headache, hoarseness, and catarrhal discharge in the throat. He had undergone various operations such as the septum, and the removal of a portion of the middle turbinate, without obtaining relief. Upon making a puncture into the sinus, I found a large quantity of pus which evidently had been overlooked by the former operators. After washing out this sinus about twenty different times, the symptoms cleared and the patient made a complete recovery. Second case happened to be a servant, who came to the clinic complaining of a similar train of symptoms. A like treatment was carried out over a long period, but no relief was experienced. Finally I performed a radical Denker operation under cocaine, and found the sinus filled with pus. Patient made a rapid recovery, all symptoms disappearing in a short time.

*Methods of making a diagnosis.*—When a patient comes for an examination with symptoms which lead us to suspect sinus disease, how are we to proceed to find out what sinus or combination of sinuses is involved?

I might say in passing, that cocaine solution is our greatest aid in making a diagnosis. Hajek says, that had he the choice of using this drug for anesthetic purposes or for diagnostic purposes, he would much prefer it for the latter. Should the pus appear in the middle meatus between the bulla and the middle turbinate, we must first determine whether the secretion is from the mucous membrane in this region or from the sinuses. If the pus is removed and reappears in ten minutes, we can say it comes from the sinuses and not from the mucous membrane, as

the mucous membrane will not produce pus in this short time. After determining definitely that the pus is from the sinuses, and not from the mucous membrane, we are confronted with the task of finding out which sinus or group of sinuses is involved. Pus in the middle meatus may come from the frontal, anterior ethmoidal, or the maxillary sinus. The maxillary sinus is the one of the three most commonly involved. The surest way to make a diagnosis is to make a puncture into the sinus underneath the inferior turbinate, and wash it out. If pus is found in this sinus, it does not mean that it is the cause of the trouble, as pus can run into the antrum from the anterior ethmoidal, or frontal sinuses, when certain anatomical features are present. After having examined the maxillary, we must determine whether the frontal or anterior ethmoidal sinuses are involved. Sometimes we are able to pass a canula up into the frontal sinus by dislocating the middle turbinate. More often we must remove the anterior end of the middle turbinate, in order to pass a canula, and even then we will have difficulty. Frequently it will pass into an ethmoidal cell which empties into the upper part of the infundibulum, into which the naso-frontal duct also enters. If, however, we are successful in washing out this sinus and we find it negative, and after waiting ten minutes pus still appears in the middle meatus, we can conclude that it comes from the anterior ethmoidal sinuses.

*Diagnosis of the Posterior Group of Sinuses.*—If pus appears in the olfactory fissure, what method must we pursue to make a diagnosis of a disease of the posterior ethmoids, or the sphenoid?

A posterior rhinoscopic examination in sphenoid and posterior ethmoidal disease usually shows a dry pharynx, and some crust formation in the upper part of the pharynx. Occasionally the sinus opening can be seen and washed out with a canula, as in cases of atrophic rhinitis. In these cases, a posterior rhinoscopic examination also shows, a muco-purulent, or a purulent discharge over the posterior surface of the middle turbinate. Pharyngitis sica and pharyngitis lateralis are usually present.

*Anterior examination of the nose.*—Having cocainized the olfactory fissure with a twenty per cent solution of cocaine, and carefully wiped away all pus in this region, we wait for five or ten minutes with the patient's head bent forward, to see if any more pus presents itself. If it does, we take a speculum with



long blades, called the Killian speculum, and try to widen the space between the septum and the middle turbinate, in order that we may see better. After this procedure, if we are still unable to tell anything definitely, should remove the posterior half of the middle turbinate, or resect the septum if it is deviated and in some cases do both. We try to pass a sound which has measurements on it, of seven, nine, and eleven centimeters, across the center of the middle turbinate into the sphenoid sinus. If this sound does not go back more than seven centimeters from the anterior nasal spine, it is not in the sinus; if eight centimeters, it is probably in the sinus. Having found the opening of the sinus, should wipe off the anterior wall and see again if pus is present, and if it comes from the sphenoid.

Can we then say it is from a sphenoidal disease? No, as it may run in from the posterior ethmoids. But if the pus comes out under pulsation, we can practically say it is a sphenoidal disease. If we suspect that the pus comes from the posterior ethmoids and not from the sphenoid, the patient may lie on his back after washing out the sphenoid, and pus will run down from the posterior ethmoids. In some cases one may be obliged to introduce a pledget of cotton or gauze into the sphenoidal opening, having previously washed out this sinus, and leave it there until the next day. Should pus now present itself on the anterior wall of the sphenoid, or olfactory fissure, means that it has come from the posterior ethmoidal cells, or else the plug of cotton has leaked and allowed the pus to come from the sphenoid. If upon removing the cotton plug, pus comes out, it means that the sphenoid is involved. If pus is present both before and after having removed the plug from the opening, it means that both sinuses are involved.

*Other methods of making a diagnosis.*—First, transillumination. At one time this method was considered very valuable, but of late it has fallen into disuse as in many cases it has been found to be misleading. Irregularity in the thickness of the bony walls will lead to all sorts of errors, in making a diagnosis by this method. The method used is to place a small electric light in the patient's mouth, if you suspect a maxillary disease, and the current is turned on till the face is luminous. If one sinus remains dark and the other light, we may assume that there is some disease in the dark sinus. In transillumi-

nating the frontal sinus, a lamp is used so that the rays will escape only from the tip. The end of this is applied against the floor of the frontal sinus at the inner angle of the eye, care being taken to exclude all light from escaping. The current is turned on, and if one side is darker than the other, it is assumed that the darker side is affected.

*Examination by the X-ray.*—Of recent years the X-ray has been considerably used in making a diagnosis of sinus disease. The anterior group (the frontal, anterior ethmoidal, and maxillary) are most successfully skiagraphed. The X-ray is especially of great value in determining the size and shape of the frontal sinus, before operating. It is also of value in ascertaining where the disease exists, especially if the disease is unilateral. It is impossible to state whether the shadows you obtain are due to a purulent secretion or a swelling of the mucous membrane.

CASE NO. I: This case is a man 26 years of age; Slavonian; laborer. The early part of December, 1913, he had considerable bleeding from his nose. This blood dropping into the throat, he spat it out. He thought that the loss of blood at that time made him very weak. He called his local physician to give him relief from this, and from the severe pains in the head with which he suffered. These pains were in the frontal region and in the back of the neck. The pain would be very severe for about ten or fifteen minutes, and then gradually grow less. This would happen several times each day. The pain at first was confined to the left side of the head, later throughout the entire head.

Patient was referred to me January 6, 1914. At that time found pus in the middle meatus, left side; greatly enlarged turbinate which was in contact with the septum. I made a puncture and washed the antrum on the left side. It was negative. Had an X-ray picture taken, in order that I might be able to exclude the frontal sinus, and thus by elimination to arrive at a diagnosis. The same afternoon operated upon him. Found the anterior ethmoidal cells extensively involved. These cells extended into the middle turbinate, forming a concha bullosa, and were filled with pus. The septum was deflected to the right, but as it did not interfere with his ability to breathe freely, was not operated upon. Was unable to find any disease in the right side of the nose.

Post-operative history: Saw the patient on several occasions since the operation. At no time has he had any headache. He said that the feeling of fullness which he had experienced in his head, had disappeared.



PLATES 1-2: Are skiagraphs of case 1.

PLATE 1. Is taken in the antero-posterior position showing the huge frontal sinuses which are clear, and the maxillary sinuses which are also clear. Septum is shown deflected to the right. Left ethmoidal region is not as clear as the right.



PLATE 2. Is taken in the lateral position, showing the depth of the frontal sinuses in case 1.

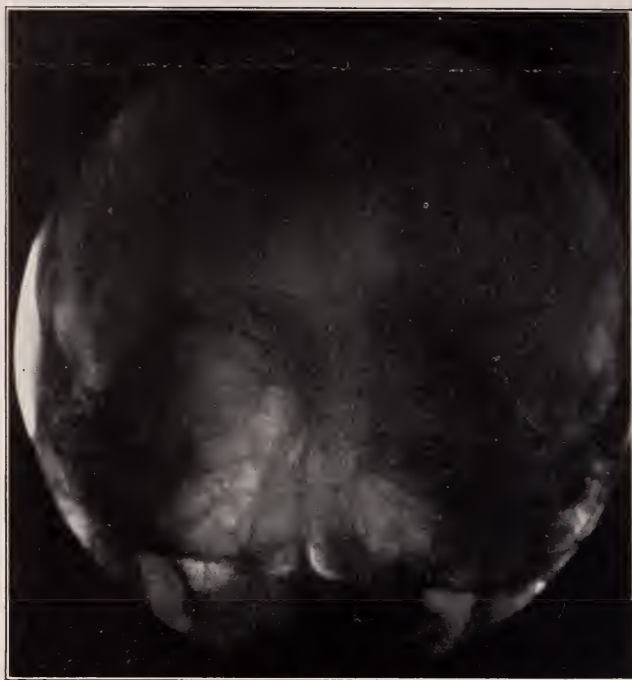


PLATE 3. A skiagraph of case 2, is of interest as no frontal sinuses appear to be present. The maxillary sinuses are clear.



PLATE 4. Is a skiagraph of case 5. It shows the very small frontal sinuses which appear clear, and the large maxillary sinuses. The region of the ethmoids is not as clear on the right side as on the left.



CASE No. 2: First saw this patient December 4, 1913. At that time he said he had pain in the head constantly for the past four or five weeks. Pain was over the region of the frontal sinuses and across the bridge of the nose. Worse in the left side than in the right, and more marked in the morning after arising. Pus was noticed coming from the left lachrymal sac.

Rhinoscopic examination showed the following: Had a deflected septum to the right which was adherent to the anterior portions of the inferior and the middle turbinates; pus in the olfactory fissure, left side.

Washed out the antrum, found it negative. No pus in the middle meatus at the time of the examination. Vision was normal. No tenderness over the frontal sinus upon pressure. Advised patient to have an operation.

January 3, 1914, he returned. In the meantime he had a number of attacks of severe headache. Had X-ray pictures taken on this date. Apparently no frontal sinuses were present; maxillaries appeared clear.

Operated patient January 5th. Found a septum which had been fractured in several places. Removed the entire middle turbinate so that I might thoroughly remove the posterior ethmoidal cells, which were markedly diseased.

Post-operative history: Patient has made a complete recovery as far as headaches are concerned. Lachrymal sac discharge has decidedly decreased. The sac involvement is caused by a colon infection, which as far as I can learn, is rare.

CASE No. 3: Is the history of a patient 23 years of age; occupation, school teacher.

She came to my office September 19, 1913, with the diagnosis made by the dentist who extracted her teeth,—abscess of the antrum. Trouble began two years ago last March. Had a constant discharge from the nose and throat. Of late has had a great amount of headache, frequently lasting all day. Her family physician in a neighboring city, washed out the antrum twelve times, through the hole where the tooth was removed. Patient was taught to wash out the antrum through this region.

After shrinking tissues with twenty per cent solution of cocaine, I noticed that the anterior end of the middle turbinate was somewhat enlarged. Found pus in the middle meatus. Antrum needle was introduced underneath the inferior turbinate, and a large quantity of pus washed out, which was foul in character. Knowing the history of the case and the treatment to which she had been subjected, felt that any further washing out of the antrum would not avail much, and advised patient to have an operation for same.

October 10, 1913, the radical Denker operation was performed, under cocaine, and novocaine. Patient was discharged from the hospital October 14th. After operation there was some swelling in the face for about one week and very little numbness about the corner of the mouth.

The laboratory report on this case was: simply acute and chronic

inflammatory material. A large amount of this material and a considerable quantity of pus was found filling up the antrum.

Patient seen again October 25th. Has been free from headaches and no pus discharging into the nose and throat.

CASE NO. 4: This is the history of a case with an involvement of the anterior and posterior ethmoidal cells; a marked deflection of the septum; and an involvement of the sphenoid.

This patient, a girl 20 years of age, had complained of headaches for the past two or three years. She was fitted with glasses, wore them for awhile; as she experienced no relief from the headaches laid them aside. Said that these headaches were present every day. Some days extending throughout its entire length. They became worse after reading or when the head was bent forward. The vision in the right eye was 12/10; the left eye, could see fingers at 3 M. She was wearing on the right eye, a plus 0.25 D. Cyl. Ax. 90; on the left eye, minus 2.75 D. Sph. with a minus 0.50 D. Cyl. Ax. 180. Her vision in the left eye with this glass was 2/10. She had a foul discharge from the left ear, an attic suppuration existing.

September 2, 1913. Nasal examination: the middle turbinate, left side, was in contact with the septum; pus present in the middle meatus and in the olfactory fissure.

I operated upon her September 14, 1913, doing a sub-mucous resection of the septum. Removed the anterior end of the middle turbinate, and drained the anterior ethmoidal cells.

She had headache, which was more or less severe, for three or four days after this operation. They gradually subsided, never clearing up entirely. Pus continued to discharge from the olfactory fissure. November 17th I opened up the posterior ethmoids and the sphenoid, to see if I could further relieve her from the pain and dizziness from which she suffered. She has had but one headache since this second operation, which occurred December 23d. Head feels clear. Still has some pus in the nose, but this also is clearing. The vision in the left eye which I believe was partially destroyed by the posterior ethmoidal or the sphenoidal disease, has never shown any improvement.

CASE NO. 5: Is the history of a patient who has had a posterior ethmoiditis, complicated with an optic neuritis.

Mrs. M. H. N., 30 years of age, examined December 31st, gives the following history. About November had a severe headache which came on suddenly. Ten days later had another headache, coming on in the morning and lasting throughout the day. In the afternoon noticed a diminution of vision, and eyes watered. On December 23, 1913, everything seemed blurred before the left eye, as though covered by a gray mist. She was not troubled with headaches before these attacks. Her head felt dull and uncomfortable, more marked since December 31st. Also had a catarrhal discharge in the throat. She was examined by an oculist December 29th, who ordered an examination of the nose.

December 31st, vision in the right eye was 15/10; left eye, 6/10, mis-called letters. Was unable to tell colors correctly with the left eye; green looked like purple.

Examination of the nose; left side; pus in the olfactory fissure; high deflection of the septum to the right, and low deflection more marked posteriorly to the left; insertion of the middle turbinate was far back; mucous membrane on the septum in the region of the middle turbinate on the left side was swollen. Pus was apparent posteriorly on the lateral wall of the pharynx.

Operated January 3, 1914. Vision at this time in the left eye was 3/10.

Operation: Removed the middle turbinate and the posterior ethmoids on the left side. Posterior ethmoids and cells contained pus.

January 19th, vision in the left eye was 1/10; January 23d, 3/10; January 26th, 6/10; January 30th, 8/10.

The blurring has cleared up decidedly. Has had no headache since operation. Feeling of fullness in the head has cleared. Patient appears to be making a good recovery.

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## AUTOGENOUS VACCINES IN COLON BACILLUS INFECTIONS.

*Read before the Schenectady Surgical Club, February 17, 1914.*

By WARREN B. STONE, M. D.,

*Pathologist to the Schenectady Laboratory Association.*

At times innocuous and at other times possessed of great virulence the colon bacillus is excreted in billions by every human being, by most domestic animals, and occurs in the excreta of a few of the wild animals, and even occasionally in fishes. The colon bacillus, one of the most widely distributed of all organisms, easily obtained, even in pure culture, is in its intimate life history perhaps less understood than any other bacteria. Why does it appear in the excreta of the infant even a few hours old and remain there constantly until death? Does it in any way aid in the digestion and absorption of foods? Does it prevent the growth of other bacteria which might have a deleterious influence on the life of the being who harbors these germs? Does it prevent undue fermentation which is a possible and even probable cause of chronic Bright's disease, arterio-sclerosis, and even old age itself? We know from laboratory experiments that colon bacilli when added to cultures of typhoid and other bac-

teria causes in a short time the death of these organisms and soon we have remaining only a pure colon culture. Perhaps this same action occurs in the intestines, and perhaps many pathogenic conditions would be much more prevalent if this bacillus were not constantly present in so great numbers in our intestines.

Interesting experiments have been made on young lambs and kids. They have been delivered aseptically and placed immediately in sterile cages and thereafter kept for considerable lengths of time in an absolutely sterile condition. Only germless air and germless food were given them and they were never allowed to come in contact with anything that might contaminate their aseptic bodies. These little animals were studied in all possible ways, but apparently the experiment has led to little of practical value for they went on and developed and grew and appeared just as healthy, but no more so, than animals less carefully treated.

The colon bacillus, in its common form, is a short rod with rounded ends, and, as a rule, grows quite luxuriantly on all culture media. The bacillus is usually slightly motile and some varieties have six, seven or eight peritrichic flagellae, while on other varieties no flagellae can be demonstrated. It stains quite readily with the usual analine colors, but often shows a slight irregularity in taking the stain, the centers being usually more deeply stained than the ends of the bacilli. It is aerobic, develops best at 37 degrees centigrade and does not form spores. It is gram negative, it does not liquify gelatine, it forms indol and causes the fermentation of grape sugar.

Now this bacillus usually saprophytic, may at times take on characteristics of a more or less sinister import to the being that harbors it. Why does this occur? Has the host by long harboring of this germ developed an immunity, which, possibly being lessened by a low state of the individual's health or other unknown causes, allows the germ to spread beyond its natural habitat and become a disease producer? Dr. Ham had a patient, a young man, with absolutely no venereal history, who suffered from inflamed hemorrhoids. Just as this condition was improving, symptoms of a prostatitis developed and this later was complicated with a double orchitis and cystitis. The urine contained great numbers of colon bacilli in pure culture. Can it be



this, or possibly that when a germ is implanted in other portions of the body rather than in the intestinal canal that it develops virulence, impossible in its ordinary habitat; or can it be, perhaps, that each individual harbors a strain of the bacillus which is innocuous to him alone but when another individual is inoculated with this strain it is capable of producing disease?

The colon bacillus may cause a varied number of pathogenic conditions, some of which naturally are much more prevalent than others. It sometimes causes inflammation of the gall bladder and bile ducts. It may even produce septicaemia, meningitis and enteritis. Welch has described a case of pancreatitis, due to colon infection. The colon bacillus may become a pus producer and cause abscesses in the neighborhood of the rectum, urethra, appendix and kidney, and in rare forms of its infection, pleurisy, pneumonia and endocarditis. By far the most common colon bacillus infection and the one upon which I wish to lay particular stress, is the infection of the urinary tract and such infection may cause a urethritis, a cystitis or a pyelitis and even an infection of the kidney itself. These infections are much more frequent than is usually believed. They are especially common in infants and children, but here the disease is usually self-limited and a cure occurs in a short time with appropriate medical treatment, but when infection in the adult has become chronic, then indeed we have a serious condition, a condition that produces the greatest distress and suffering and is most obstinate and, until the development of vaccine therapy had reached its present stage, was often incurable.

In 1907 the County Medical Society had one evening devoted to the consideration of the vaccine treatment as originated by Sir A. E. Wright. At that time, being new and untried, it was heralded as a discovery that would possibly revolutionize the treatment of infectious diseases, and it was hoped and believed that it would be a specific, and speedily cure, many conditions which had hithertofore been considered incurable, but now, after the lapse of several years, and we have all had an opportunity to test the method out in many varied cases, it has often been found wanting, but in other cases its action has been almost miraculous and worked a wonderful change for good where all other methods had absolutely failed.

Within the past few years, a number of physicians have spoken to me of chronic cases of cystitis in patients of theirs, which had resisted all forms of treatment and which made life for the poor individual almost unendurable. They asked me if it were possible to make a vaccine which might help the patient. Specimens of urine, collected in an aseptic manner, were given me and were cultured and vaccines made. Almost invariably pure cultures of the colon bacillus were found. I will conclude my paper by giving a brief history of some of these patients, first stating that I personally have but little faith in stock vaccines and the so-called gun shot vaccines, which are made up of different numbers of different germs, the makers hoping that perhaps one of the germs may hit a certain condition correctly and so produce beneficial results. I believe that the vaccine treatment is one of the most scientific methods of therapeutics, and that it is absolutely necessary to know the germ or germs which are producing the disease and then to administer vaccines in correct doses prepared by culturing the causative organisms.

CASE I. The earliest case was one of Dr. Towne's, and it was one of the most serious on my list. The patient was a female about 60 years of age and she had cystitis for four years. The condition came on insidiously gradually increasing in severity until she was in constant misery both day and night. Urination was very frequent and was necessary almost every hour of the twenty-four. There was considerable pain and tenesmus. She had previously received the best of medical care, her perinium had been repaired and her bladder had been treated locally with irrigations. These irrigations helped her a little and made her condition more endurable so that after a time, she herself irrigated her bladder every day. Another laboratory had cultured her urine and found a colon bacillus infection and prepared a vaccine which was used four times with considerable improvement, but did not cure the condition. When a new vaccine was required (it was at this time the Laboratory Association was formed), I prepared a fresh vaccine of which she received eight injections. She gradually improved and after the twelfth injection had been given her symptoms had all cleared up and she became symptomatically well. She has remained well to this date.

CASE II. Another case of cystitis in a female treated by Dr. Towne with practically the same symptoms and also four years' duration was also cured after fifteen injections.

Dr. Kurth and I have examined a great many urines with special references to the colon bacillus and I have found them in pure cultures in twenty-one of his cases. Some of these had

only slight inflammatory symptoms which were easily removed by medicinal treatment; some of the cases were seen but a few times and some refused the vaccine treatment. Of his twenty-one cases, five were given the vaccine therapy with the following results.

CASE III. A female aged 45 had had cystitis for several years. She was cured both symptomatically and bacteriologically after twenty-one injections. It may be stated here that the vaccine is standardized so that each minimum contains 100,000 bacteria. Treatment is at first given twice a week, but it is advisable that the initial dose should be not over 300,000 bacteria. The dose is gradually increased until in some cases 1,000,000 bacteria are given at one injection. Dr. Kurth believes that he obtains the best results by using small doses and warding against severe reactions. He has rarely needed a larger dose than 700,000 bacteria. The standardization has been adopted so that the injection may be made with the ordinary hypodermic syringe.

CASE IV. Mrs. H., the wife of a prominent Schenectadian, aged 55 was one of Dr. Kurth's bad cases. She had been ill for many years and was practically confined to the house. She had to give up all her social duties and was in an almost continual suffering both day and night. Sixteen treatments were given and she was both symptomatically and bacteriologically cured.

CASE V. Mrs. M., aged 38, had also had cystitis for several years. She had been the rounds and consulted many physicians and had been treated for neurasthenia with irritable bladder but the true cause, the colon bacillus infection was not discovered until the fall of 1912. She was given twenty-one injections, with complete recovery. Dr. Kurth characterized her as being the happiest woman in town. She had been obliged to deny herself to callers, even in her own home, and now she can remain out an entire evening with absolutely no discomfort.

CASE VI. Another case of moderate severity was symptomatically cured after eight injections.

CASE VII. Mrs. C., aged 35 years, was confined to the house during January and February for a number of years because of severe cystitis. She was cured after fourteen injections. I quote Dr. Kurth in saying "Vaccine treatment in such cases is of the greatest value and I would not do without it for anything."

A positive diagnosis of colon bacillus infections in about thirty of Dr. Van Der Bogart's patients has been made, but as most of these recovered with medicinal treatment, vaccines were used in only one case, which was rather more obstinate than is usual in infants. In this case complete recovery occurred after four injections.

CASE VIII. A patient of Dr. D. R. Kathan's, male, aged 25 years and personal history negative, was taken last October with severe pain over the bladder which radiated upward toward the left kidney. The pain was quite intense and suggested colic due to renal calculus. Blood and pus were found in the urine. After a few days he improved and was able to take up his work again, but in November again suffered from a similar attack, but this time pain radiated to the right kidney. He was radiographed but examination as far as calculi were concerned was negative. On November 17th, colon bacilli in pure culture were found in the urine. The patient improved during the month of December, but in January suffered a third attack when vaccine therapy was instituted. He has been given five injections and is now symptomatically well, but the case requires more treatment and more observation before final judgment can be made.

CASE IX. This is a patient of Dr. Betts', Cora G., 45 years of age. She had been ill for about five years with symptoms of cystitis. She was in undoubtedly the worst condition of any of these cases. The irritation was so great that she was obliged to urinate as often as every half hour both day and night, and was in almost constant distress from the irritation and tenesmus. This continual suffering had a deleterious effect both upon her physical and nervous system so that when Dr. Betts first saw her in December, 1912, she was indeed a pitiable object.

At that time she was cystoscoped, and it was thought that the appearance of the uretral apertures suggested a tubercular condition. Inoculation experiments for tubercle bacillus were negative, but a culture gave a pure growth of colon bacillus.

The urine was only slightly clouded, contained only a very moderate amount of pus, but the culture showed about 5,000 organisms per cubic centimeter. She was given the first dose of vaccine on December 26th, 1912, and was given the last, the fifteenth dose, on April 13th, 1913, and is now perfectly well and earning her living.

A few other cases might be cited, but the worst and most typical of our series have been given, which we think amply proves the efficacy of autogenous vaccines in curing these intractable cases of colon bacillus infection. We admit that the dose is small, but believe that the small dose causes only a slight negative phase, and when gradually increased and given at proper intervals causes an improvement which ultimately, in the greater number of cases, ends in recovery.

I am indebted to Park for certain bacteriological data.



## Editorial

In the evening I was sick, and told the driver I would pay him double if he would bring me early to my next stage. A miserable night—suffering dreadful. In the morning I found there was a carriage with four horses going straight through to Louvain. I engaged it and arrived the next night in an agony of pain. Fearing that my own rooms would be cold, I drove to the house of my kind friend Theodoric, the printer. An ulcer broke in the night, and I was easier. I send for a surgeon. He finds another on my back; glands swollen and boils forming all over me. He tells Theodoric's servant that I have the plague, and that he will not come near me again. Theodoric brings the message. I don't believe it. I send for a Jew doctor, who wishes his body was as sound as mine. The surgeon persists that it is the plague, and so does his father. I call in the best physician in the town, who says that he would have no objection to sleep with me. The Hebrew holds to his opinion. Another fellow makes a long face at the ulcers. I give him a gold crown, and tell him to come again the next day, which he refuses to do. I send doctors to the devil, commend myself to Christ, and am well in three days.

*Life and Letters of Erasmus, by J. A. Froude.*

ERASMUS.



The resignation of Dr. Tucker as Registrar of Administration the College will be felt by the Alumni of the last Changes. thirty-two years as a personal loss. He began his duties in 1882, following the late Dr. Jacob S. Mosher as the executive officer of the faculty. He thus attended to the financial relations of all the students of the classes of 1883 to 1917, inclusive, and so became intimately acquainted with one thousand four hundred and forty-five men. How he advised and assisted many who were ready to make sacrifice or undergo hardship to satisfy ambition and to open an arduous path to a higher station in life, is known only to them. The casual observer could only note the tone of friendship and affection with which he was universally greeted on alumni day. This eventually became a sort of annual festival for Dr. Tucker, and was the occasion of a phenomenal recognition by him of names and faces. He was one of the organizers of the Alumni Associa-

tion, and for twenty-five years its secretary. He had well in mind its principles and policies, and guided its destinies. His service was voluntary, and when he had earned retirement was the unanimous choice for the presidency. His presidential address outlined the possibilities of the association and suggested measures for the promotion of its usefulness. These were not all carried out, owing to some childish differences of opinion, but the suggestions were good, and must bear fruit in time. There will be universal regret that he has felt the need of rest, for he has guided the school through the intricacies of the evolution of the medical curriculum, which have made the last few years the most active of all. Fortunately he will continue his work as Professor of Chemistry.

Dr. Tucker's successor as Registrar is Dr. Joseph D. Craig. Dr. Craig has been Health Officer of the City of Albany since 1900, and has also been professor of anatomy in the College. His whole time will be devoted to the College in this double capacity, for which he has been fitted by his experience in the statistical work of the Department of Health.

To the vacancy in the health department Dr. Arthur Sautter, the senior deputy, has been promoted. Dr. Sautter has had the practical direction of the care of contagious diseases, and during his incumbency has developed the services of Pavilion G of the Albany Hospital for contagious diseases, and the building for small-pox, under the management of the same institution. His appointment carries with it a sense of security and confidence, and assures the city of a vigorous administration of the health laws.

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## Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JANUARY, 1914.

### *Deaths.*

Consumption. . . . .	25
Typhoid fever . . . . .	0
Scarlet fever . . . . .	0
Measles . . . . .	1
Whooping-cough . . . . .	1

*Deaths—Continued*

Diphtheria and croup.....	1
Grippe. . . . .	6
Diarrheal diseases . . . . .	5
Pneumonia . . . . .	16
Broncho-pneumonia . . . . .	12
Bright's disease . . . . .	14
Apoplexy . . . . .	6
Cancer . . . . .	19
Accidents and violence.....	11
Deaths under 1 year.....	33
Deaths over 70 years.....	38
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Total deaths . . . . .	190
Death rate . . . . .	22.36
Death rate less non-residents.....	18.00

*Deaths in Institutions.*

	Resident	Non-Resident
Albany Hospital . . . . .	14	13
Child's Hospital . . . . .	0	0
County House . . . . .	2	3
Homeopathic Hospital . . . . .	10	0
Hospital for Incurables.....	3	3
Little Sisters of the Poor.....	0	1
Penitentiary . . . . .	0	1
Public Places . . . . .	0	3
Sacred Heart Convent.....	1	0
St. Frances De Sales Convent.....	1	0
St. Margaret's House.....	0	0
St. Peter's Hospital.....	9	3
Austin Maternity Hospital.....	0	2
Albany Hospital, Tuberculosis Pavilion.....	4	2
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	44	31
Births . . . . .	146	
Still births . . . . .	8	
Premature births . . . . .	8	

## REPORT OF VISITING TUBERCULOSIS NURSE.

Old cases . . . . .	55
Number of new cases.....	14
Cases returned from hospital.....	3
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Total. . . . .	72

## Disposition of old and new cases:

Died . . . . .	13
Sent to hospitals . . . . .	6
To General Tuberculosis Nurse . . . . .	44
Remaining under treatment . . . . .	9
Total . . . . .	72
Number of visits made . . . . .	55

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive . . . . .	5
Negative . . . . .	36
Total . . . . .	41
Living cases on record January 1, 1914 . . . . .	323
Cases reported:	
By card . . . . .	25
Dead cases by certificate . . . . .	11
Total . . . . .	36
Dead cases previously reported . . . . .	14
Dead cases not previously reported . . . . .	11
Removed . . . . .	4
Living cases on record February 1, 1914 . . . . .	330
Total tuberculosis death certificates filed during January . . . . .	25
Out of town cases dying in Albany:	
Albany Hospital Camp . . . . .	2
City at large . . . . .	1
Albany Hospital . . . . .	1
County Hospital . . . . .	1
City tuberculosis deaths . . . . .	5

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever . . . . .	3
Scarlet fever . . . . .	4
Diphtheria and croup . . . . .	16
Chickenpox . . . . .	11
Smallpox . . . . .	0
Measles . . . . .	5
Whooping-cough . . . . .	0
Consumption . . . . .	40
Cerebro-spinal meningitis . . . . .	1
Total . . . . .	80



*Contagious Disease in Relation to Public Schools.*

	Reported D. S. F.
Public School No. 3.....	1 ....
Public School No. 9.....	.... 1
Public School No. 14.....	1 ....
Public School No. 16.....	1 ....
Open Air School.....	.... 1
St. Patrick's School.....	2 ....

## Number of days quarantine for diphtheria:

Longest..... 24      Shortest..... 9      Average..... 15.7

## Number of days quarantine for scarlet fever:

Longest..... 13      Shortest..... 6      Average..... 9.5

## Fumigations:

Houses..... 39      Rooms..... 163

Cases of diphtheria reported..... 16

Cases of diphtheria in which antitoxin was used..... 16

Cases in which it was not used..... 0

Deaths after use of antitoxin..... 1

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive .....	17
Initial negative .....	170
Release positive .....	18
Release negative .....	49
Failed . . . . .	5
Total. . . . .	259

*Test of Sputum for Tuberculosis.*

Initial positive .....	7
Initial negative .....	34
Failed . . . . .	2
Total. . . . .	43

## BUREAU OF MARKETS AND MILK.

Public market inspections.....	16
Market inspections .....	83
Packing house inspections.....	1
Rendering plant inspections.....	1
Slaughter house inspections.....	1
Milk depots inspected.....	19
Milk depots deficient.....	4
Milk wagons inspected.....	56

Milk wagons deficient.....	8
Milk cans inspected.....	118
Unclean cans .....	14
Stores inspected .....	154
Stores deficient .....	15
Lactometer tests .....	53
Temperature readings .....	53
Fat tests .....	45
Fat tests below standard.....	1
Sediment tests .....	35
Sediment found .....	23
Notices served .....	2

## MISCELLANEOUS.

Work certificates issued to children.....	11
Number of written complaints of nuisances.....	36
Privy vaults .....	3
Closets .....	6
Plumbing .....	10
Other miscellaneous complaints.....	17
Cases assigned to health physicians.....	100
Calls made .....	240

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**Medical News**

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JANUARY, 1914.—Number of new cases, 226; classified as follows: Dispensary patients receiving home care, 17; district cases reported by health physicians, 3; charity cases reported by other physicians, 87; moderate income patients, 96; metropolitan patients, 21; old cases still under treatment, 118; total number of cases under nursing care during month, 344. Classification of diseases for the new cases: Medical, 59; surgical, 13; gynecological, 1; obstetrical under professional care, mothers 51, infants 51; eye and ear, 1; throat and nose, 1; infectious diseases in the medical list, 49. Disposition: Removed to hospitals, 11; deaths, 25; discharged cured, 135; improved, 26; unimproved, 11; number of patients still remaining under care, 136.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 4; nurses in attendance, 3; patients carried over from last month, 0; new patients during month, 7; patients discharged, 6; visits by head obstetrician, 3; by attending obstetrician, 2; by students, 34; by nurses, 59; total number of visits for this department, 98.

*Visits of Nurses* (all departments).—Number of visits with nursing treatment, 1,720; for professional supervision of convalescents, 772;

total number of visits, 2,492; visits to pay cases, 824; to charity cases, 1,668; cases reported to the Guild by 3 health physicians, and 55 other physicians; graduate nurses 5, certified nurses 3, and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 92; new patients, 119; old patients, 397; total number of patients treated during month, 516. Classification of clinics held: Surgical, 12; nose and throat, 9; eye and ear, 18; skin and genito-urinary, 8; medical, 12; lung, 11; dental, 0; nervous, 0; stomach, 4; children, 11; gynecological, 7.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—A hearing on the question of "Care, Detention and Treatment of the Poor and Delinquent Alcoholics in the City and County of Albany," was held in the Common Council Chamber, January 28th, at 8.30 P. M.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—A regular meeting of the Medical Society of the County of Schenectady was held in the rooms of the Society in the County Court House, Tuesday, Feb. 10, 1914, at 8.30 P. M.

Scientific program:

"Diseases and Injuries of the Cornea (with exhibition of cases)," Dr. J. J. O'Brien.

"Advances in the Treatment of Chronic Otitis Media," Dr. W. J. Brewster.

REPORT OF DIVISION OF COMMUNICABLE DISEASES FOR DECEMBER, 1913.—The monthly bulletin of the New York State Department of Health gives the following report for December, 1913:

Poliomyelitis: There have been 22 cases reported during December.

Anthrax: Two cases of anthrax were reported.

Cancer: There were but 55 cases of cancer reported during December.

Cerebrospinal Meningitis: Reports of 20 cases have been received.

Diphtheria: The increased prevalence of diphtheria during December is shown by the 2,360 reported cases, an increase of 1,000 cases over the preceding month and 400 more cases than were reported during the corresponding month of 1912.

Scarlet Fever: The prevalence of this disease is greater than during the preceding month, but has not been as prevalent as during the corresponding month of last year.

Measles: This disease is increased in prevalence over last month, but there are 1,800 fewer cases reported this December than during the same month of 1912.

Ophthalmia Neonatorum: There were but 4 cases reported during December.

Pneumonia: The reports of pneumonia show but a small percentage of the cases, as only 348 cases have been reported during December.

Smallpox: This eruptive fever continues chiefly in the city of Niagara Falls and vicinity. The health authorities are making every effort to

control the epidemic by vaccination, rigid quarantine and thorough disinfection.

Tetanus: There was one case of tetanus reported.

Tuberculosis: There were 2,158 cases reported during December.

Typhoid Fever: The decreasing prevalence of typhoid fever has reduced the number of reported cases to 393 during the month.

Whooping Cough: There were 697 cases reported this month.

CAPITAL DISTRICT CHARITIES CONVENTION.—The Conference of the Capital District Charities and Corrections will be held in the Ten Eyck Hotel, Albany, N. Y., March 5th and 6th. The following is the program:

Thursday afternoon—Prayer, the Rev. S. H. Goldenson; president's address, by Robert W. Heberd, secretary of the State Board of Charities; report of committee on children, David Morey, president Troy Catholic Male Orphan Asylum; paper, "Treatment of Backward and Defective Children," Miss Elizabeth Farrell, inspector of ungraded classes, New York City; discussion opened by Dr. L. Pierce Clark, consulting neurologist, Craig Colony, Sonyea; paper, "The Educational Value of Labor," by Dr. Arthur D. Dean, chief of division of vocational schools, University of the State of New York; discussion opened by the Rev. Brother Emery Aloysius, superintendent St. Vincent's Male Orphan Asylum, followed by Herbert J. Hunn, superintendent Troy Orphan Asylum; general discussion.

Thursday evening—Report of the committee on mental defectives, Dr. R. W. Hill, superintendent State and Alien Poor; paper "Causes of Backwardness in Children," Charles H. Johnson, superintendent Leake and Watts Orphan House, Yonkers; discussion opened by Dr. Clinton P. McCord, health director, Albany; paper, "The Determination of Mental Defect," Dr. Charles Bernstein, superintendent Rome State Custodial Asylum; discussion opened by Miss Marion Collins, investigator, State Board of Charities; general discussion.

Friday morning—Report of the committee on sex hygiene, Dr. H. L. K. Shaw, director, division of child hygiene, State Department of Health; paper, "Sex Instruction in Schools," Dr. Ira S. Wile, member board of education, New York City; discussion opened by Dr. Clinton P. McCord; paper, "The Sex Hygiene Question from the Woman's Standpoint," Dr. Rosalie Slaughter Morton, lecturer for the State Department of Health; discussion opened by Dr. Agnes Page, Albany; paper, "Public Instruction in Sex Hygiene," Dr. William F. Snow, director of the American Federation for Sex Hygiene; discussion opened by Dean Thomas M. Balliett of the American Society of Social and Moral Prophylaxis; general discussion.

Friday afternoon—Report of the committee on relief of the poor in their homes, Miss Mary I. Breed, general secretary Society for Cooperation of Charities; paper, "The Non-Supporting Husband," Albert W. Clark, general welfare manager, General Electric Company; discussion opened by Nathaniel J. Walker, secretary Mohawk and Hudson River Humane Society; paper, "The Transportation Problem, the Pass-



ing On of the Homeless," by Arthur J. Lowery, former commissioner of charities, Utica; discussion opened by the Rev. Dr. Charles C. Harriman, rector St. Peter's Church; general discussion.

Friday evening—Report of the committee on public health, Dr. Charles S. Prest, Waterford; paper, "Private Effort and Public Service." Dr. John Huson Finley, commissioner of education; discussion opened by Henry S. Bacon, deputy attorney general; paper, "The Physical Welfare of the Man," Dr. Linsly R. Williams, deputy State commissioner of health; discussion opened by Monsignor J. L. Reilly, Schenectady; general discussion.

SAUNDERS' NEW CATALOGUE.—W. B. Saunders Company, publishers of Philadelphia and London, have just issued an entirely new eighty-eight page illustrated catalogue of their publications. As great care has evidently been taken in its production as in the manufacture of their books. It is an extremely handsome catalogue. It is a descriptive catalogue in the truest sense, telling you just what you will find in their books and showing you by specimen cuts, the type of illustrations used. It is really an index to modern medical literature, describing some 250 books, including 30 new books and new editions.

FEDERATION OF MEDICAL BOARDS.—The second annual session of the Federation of State Medical Boards was held at the Congress Hotel, Chicago, on Wednesday, Feb. 25, 1914. Papers on the following subjects were presented: "Public Health Administration," Surgeon General Rupert Blue, U. S. Public Health Service; "Should the Federation of State Medical Boards of the United States recommend a uniform minimum curriculum for Medical Schools?" Dr. John L. Heffron, Dean of the College of Medicine, Syracuse University; "The Use of the United States Medical Services in Standardizing Medical Education," Lieut. Col. J. R. Kean, Medical Corps, U. S. A.; "Some Thoughts on the Standardizing of Medical Education," Dr. Harold C. Ernst, Harvard University; "What Instruction ought Medical Colleges to give in Pharmacology?" Dr. Samuel W. Lambert, Dean of the College of Physicians and Surgeons, Columbia University; "The Viewpoint of the State Examiner," Dr. Walter L. Bierring, president of the Iowa Board; "The Viewpoint of the Pharmacist," Dr. Bernard Fantus, professor of pharmacology, in the University of Illinois; "General Discussion of a Model Medical Practice," "General Discussion of Credentials and the Evil of the Equivalent," "General Discussion of Practical Examinations," "Reciprocity," Dr. John Montgomery Baldy, president of the Pennsylvania Bureau of Medical Education and Licensure.

EXAMINATION FOR DENTISTS.—The Surgeon General of the United States Army announces that examinations for the appointment of acting dental surgeons will be held in various places throughout the country on April 13, 1914. Application blanks and full information may be procured by

the "Surgeon General, United States Army, Washington." addressing Applicants must be citizens of the United States between 21 and 27 years of age, graduates of a licensed dental school and of good moral character and habits. Acting dental surgeons are employed under a three years' contract at the rate of \$150 per month and at the expiration of this time are entitled to examination for promotion to the grade of dental surgeon with the rank of first lieutenant. There are at present twenty-eight vacancies.

**MAY TAKE PATIENT TO A HOSPITAL.**—In response to an inquiry received from Dr. Herman M. Biggs, the new State commissioner of health, Attorney General Carmody has rendered an opinion which will aid the Niagara Falls authorities in suppressing the outbreak of smallpox in that city. Mr. Carmody holds that a smallpox patient may be removed by the local health officer from the patient's home to a suitable quarantine hospital provided by the municipality. He also holds that a municipal health officer has the power to provide by order that a smallpox patient may be removed to a quarantine hospital except where such removal would jeopardize the life of the patient in which case the health officer may give a permit for the patient to be left at home on compliance with such precautions as may be prescribed by the health officer.

"Section 21 of the public health law," says Mr. Carmody "so far as it confers power on local boards of health to adopt and enforce regulations consistent with the public health law and reasonably adapted to carry out the purposes for which they were created, has been unchanged since the enactment of chapter 203 of the laws of 1895. The courts have frequently upheld this grant of power as not an improper delegation of legislative authority within the meaning of the constitutional inhibition against delegating the law making power. These rules, therefore, when reasonable and adopted pursuant to statutory authority have the force and effect of a law of the Legislature within the respective jurisdictions. I am unable to discover that the regulation of the local health board as to the removal of the smallpox patients to a quarantine hospital is inconsistent with the provisions of the public health law. However, this regulation seems to be reasonably adapted to carry out one of the most important duties of the local health authorities viz., the prevention of the spreading of smallpox. Where good faith is exercised, where a suitable quarantine hospital is provided by the local authorities and spreading of the disease cannot be prevented by leaving the patient at his residence, he may be removed under the authority of the health officer.

"I am, therefore, of the opinion that a smallpox patient who cannot be quarantined at his residence, so as to afford protection to the public from contagion of the disease, may be removed by the local health officer to a suitable quarantine hospital provided by the municipality, where the removal is authorized by the regulations of the local board of health, adopted in accordance with the provisions of the public health law."

**RADIUM CONTROL BILL.**—The plan for Government control of the radium-bearing ores which may hereafter be found on the public domain and for the construction of a Government reduction plant is outlined in a bill prepared for introduction into Congress. It provides that all public lands of the United States on which radium-bearing ores are located shall be subject to exploration and occupation under the mining laws on condition that the United States shall have the exclusive right to purchase part or all of the product of such lands to the amount of the public need; it authorizes the Government to construct and operate plants for the extraction of radium as it may desire; it authorizes the Government, through the Secretary of the Interior, to buy radium bearing ores mined from the public lands at prices fixed by the Government and based upon semi-annual investigations of the cost of production and reasonable profits to the miners, and it permits the federal Government to buy radium from other sources than the United States and to sell the by-products of radium production in the Government plant and to dispose of the radium extracted there in such a manner as will best subserve the public welfare. It is believed then that the terms of the bill will satisfy all those interested in the questions.

**NATIONAL CONFERENCE ON RACE BETTERMENT.**—Four hundred men and women of prominence, comprising the first representative group of scientific experts ever gathered in America for that purpose, met in Battle Creek January 8-12 to assemble evidence of race deterioration and to consider methods of checking the downward trend of mankind. The meeting was known as the First National Conference on Race Betterment. Through the co-operation of the press, the objects and aims of the conference have been very widely disseminated and a resultant influence for better race ideals is anticipated.

Already, the effect of the conference is apparent in Battle Creek where popular interest in mental and physical efficiency was awakened by a series of public school tests which showed an alarming percentage of defective children in all grades.

The conference had its inception in the efforts of four men, particularly interested in race betterment—Rev. Newell Dwight Hillis, pastor of Plymouth Church, Brooklyn, N. Y., Dr. J. H. Kellogg of the Battle Creek Sanitarium, Sir Horace Plunkett, former minister of agriculture for Ireland, and Prof. Irving Fisher of Yale University. At the invitation of a central committee chosen largely by these men, fifty men and women of national prominence in the fields of science and education consented to share in the program. Their addresses, together with open discussion of many of the points considered, constituted a very widespread study of all phases of evident race degeneracy and the advocacy of many ideas of reform. Some of the suggested methods of improvement are frequent medical examination of the well, outdoor life, temperance in diet, biologic habits of living, open air schools and playgrounds, the encouragement of rural life, the segregation or sterilization of defectives, the encouragement of eugenic marriages by requiring

medical certificates before granting license and the establishing of a eugenics registry for the development of a race of human thoroughbreds.

Among those having a share in the program were: Rev. Newell Dwight Hillis, Jacob Riis, Judge Ben B. Lindsey, Booker T. Washington, Dr. Victor C. Vaughan, Dr. S. Adolphus Knopf, Dr. C. B. Davenport, Dr. J. N. Hurty, the Very Reverend (Dean) Walter Taylor Sumner and many others of equal prominence.

**MATTEAWAN OVERCROWDED.**—At present there are 850 inmates in the State Hospital for the Criminal Insane, Matteawan, more than ever before at any time. The superintendent states that this overcrowding is largely due to the fact that New York County has been dumping insane criminals into this institution and he states that he will refuse to accept any more of these insane criminals from New York County.

**AMERICAN HOSPITAL ASSOCIATION.**—At the Boston convention, a committee was appointed to consider the grading and classification of nurses, with instructions to submit a plan of grading to this association at its next meeting.

The committee held its first meeting in Buffalo, January 13th and 14th and decided to submit the following list of questions to the members of the association, in order to secure an expression of opinion from all parts of the countries represented in the association.

You are therefore urged to consider the appended questions and mail your replies to Dr. Renwick Ross, Buffalo General Hospital, Buffalo, before April 15.

1. In your opinion is it possible to meet the nursing needs of the average community in city, town and country, in the U. S. and Canada with graduate nurse service alone?

2. If in your opinion only graduate service should be used, will you kindly present an outline of a practical comprehensive program, for supplying graduate service to all classes needing continuous nursing?

3. If more than one grade of nurse is a necessity, will you please state how many grades you consider necessary? How would you classify nurses so as to include in your classification, all who nurse for hire?

4. Will you kindly suggest a substitute term for the grade B or "certified nurse" as recommended by the committee on grading of last year, if you consider that some better term should be used to designate nurses trained in special hospitals or hospitals unable to give a full training. Please state whether or not you are satisfied with the distinctive terms recommended by the committee of last year. Give briefly your reasons if not satisfied.

5. If several grades seem to be necessary, how and where should the several grades be trained?

6. In view of the fact that many tuberculosis hospitals find it impossible to secure sufficient graduate nurses to care for their patients, what measures would you suggest for meeting the nursing needs in such institutions.

7. If training is given in a tuberculosis hospital, how long should



the course be and how would you classify those completing such a course?

8. In view of the fact that there is a constant and pressing demand for maternity nurses in homes of moderate means, what measures that are practicable for the average community would you suggest for meeting this need. How classify such nurses?

9. What constructive recommendations would you make with a view to improving on the plans presented by the committee on the grading of nurses in the report submitted to the association at the Boston convention, a copy of which was mailed to each member?

10. Will you kindly suggest to the committee of this year any feasible plans which occur to you for improving the quality of home nursing now being received by those who cannot afford graduate nurses?

PERSONALS.—Dr. HENRY L. K. SHAW (A. M. C. '96), Albany, N. Y., has been appointed director of the department of child hygiene of the State Department of Health.

—Dr. WILLIAM H. MURRAY (A. M. C. '69), Albany, N. Y., has been appointed postmaster of Albany.

—Dr. ARTHUR KRIDA (A. M. C. '11), Schenectady, N. Y., after two years' service at Bellevue Hospital has opened an office at 609 State St., Schenectady, N. Y.

—Dr. JOHN A. McELWAIN (A. M. C. '11), is engaged in active practice at Ballston Lake, N. Y.

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DIED.—Dr. THOMAS A. REYNOLDS (A. M. C. '66), a veteran of the Civil War died at his home in Kingston, N. H., December 12, 1913.

—Dr. GEORGE P. K. POMEROY (A. M. C. '78), Stuyvesant, N. Y., died January 23, 1914.

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## In Memoriam

ALEXANDER ENNIS, M. D.

Dr. ALEXANDER ENNIS, an alumnus of the Albany Medical College of the class of 1855, died at his home in Pattersonville, N. Y., February 15, 1914, aged eighty-three years.

Dr. Ennis was one of the oldest living graduates of the college. He graduated from Union College in 1850, and after receiving his degree of doctor of medicine, practiced for two and a half years at Richford, N. Y., removed to Esperance, Schoharie county, in 1859, and in 1868 left there for Pattersonville where he continued in active work until shortly before his death. He was a member of the Medical Society of the County of Schenectady, had been health officer of the town of Rotterdam for many years, terminating his service in 1892, and had served as coroner for four terms. Dr. Ennis was married in 1855, and after a period of forty-nine years of married life lost his wife in 1904. He was an earnest and faithful practitioner, and had gained the respect and affection of the community in which he had spent his long professional life.

## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*Marriage and Genetics.* By CHARLES A. L. REED, M.D. The Galton Press, Cincinnati, Ohio.

This book "from the pen of a surgeon" as the author tells us in his preface, is a recent addition to a rapidly growing list of works upon a very popular and much talked-of subject.

The author tells us that the motive prompting the effort was a desire in some measure to overcome the ignorance which often keeps innocent victims from protecting themselves and their off-spring from disease and degeneracy, and to avert those conditions that destroy the possible happiness of the married state and convert the bridal chamber into the anteroom of the divorce court.

To this end he presents a brief statement of the fundamental laws of race perpetuation. This presentation he calls 'The Decalogue of Human Breeding.' To this he has added a chapter on the so-called "Social Diseases," with the motto of "knowledge is the best preventative of disaster," and concludes with a section on "Applied Eugenics."

The first half of the book is devoted to a statement, in a modified form with brief explanation of their significance, of such biologic laws as Weismann's Law of the Continuity of the Germ Plasm, Haeckel's Law of Biogenesis (development history of an individual repeats the history of the race), Galton's Law of Inheritance, Mendel's Law of Heredity, Carpenter's Law of Antagonism between Growth and Genesis, Spencer's Law of the Relation of Genesis to Nutrition and Expenditure, Darwin's Law of Natural Selection, and a brief discussion of Lamarck's Law of Transmission of Acquired Characteristics.

"Character units" or traits transmissible from generation to generation, the terms "dominant," "recessive," "variation," and the Law of Variations, are all briefly defined and discussed.

These are terms and laws familiar to the student of genetics or to the physician who has had adequate training in the biological sciences.

The chapter on Syphilis and Gonorrhoea is especially well written, and bespeaks a first-hand knowledge of facts and a real appreciation of the problem in a sociological sense.

He also sets forth the menace of "the unfit" and suggests protection against the transmission of their taint to succeeding generations by (a) limitation of marriage amongst certain defectives, (b) sterilization of limited classes, (c) education and intelligent voluntary selection as a substitute for natural selection. In accord with the latest "studies" along this line and in agreement with the opinions of those in most intimate touch with the great army of defectives both in institutions and at large in society, we wish the author had made the above plan more comprehensive and had mentioned permanent custodial care for all epileptics and feeble-minded—"segregation and sterilization," as one investigator puts it. To this plan must be added education of the masses,

as Dr. Reed suggests, in the danger that threatens the efficiency of the race.

Reference is made to the Edwards-Jukes history, probably because it is classic, but no mention is made of the more scientific "study" by Goddard. The reader is referred to the striking work of Davenport and to Walter's clear and readable book, "Genetics." There is no reference to Punnett's concise little book on Mendelism, which would serve as an excellent supplement to the author's exposition of Mendel's Law of Heredity.

The author has not overlooked a clear discussion of the great importance of good health and freedom from physical and mental abuse on the part of prospective parents especially during the year immediately preceding the propagation of a child.

He points out that the problem of genetics is first a personal one and then a radical one. He says: "It is only when the whole question can be considered in its personal, rather than in its broader social relations, that it becomes a theme that is freighted with real human interest; an interest that has to do with tears, laughter, heart-throbs, disease, sorrow, and early death; or, on the other hand, with health, efficiency, happiness and fullness of years. The problem viewed from the standpoint of the youth, the prospective parents of the immediate future, is to spare him or her the unhappiness derivable from uncongenial, vicious or otherwise unfit companionship, and from the burden and humiliation of an unworthy or even degenerate progeny. Viewed from the standpoint of society or of the nation, the problem is somewhat to mitigate the burden of inefficiency, vice, degeneracy and crime, that today occasion the chief expense of governments and the chief menace to the progress of the race."

The book is too technical to reach the great mass of readers, untrained in biology, but it should afford an excellent introduction to genetics to the general physician or the social scientist. A few diagrams and charts would have lent force to the text in many places.

To summarize briefly:

In considering the problem of race betterment, the questions considered relate, first, to the welfare and happiness and improvement of the individual (the science of eugenics), and next, to the *worth of those who are to carry the germ-plasm down through future generations*. These questions, along with a consideration of the protection of society from "the unfit" and a brief but suggestive exposition of the practical application of a few principles that make for race efficiency, and a short discussion of the so-called "eugenic marriage," constitute the scope of Dr. Reed's volume.

The chief value of this and similar messages is to declare and repeat the one great truth of so much sociologic import today that, "shape one's actions as one may, the future lies behind one."

For him who reaches out and helps thus to educate the masses in the science of race improvement and race efficiency, credit and honor wait.

CLINTON P. MC CORD.

*A Clinical Manual of Mental Diseases.* By FRANCIS X. DERCUM, M. D., Ph. D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, Consulting Neurologist to the Philadelphia General Hospital; President of the Philadelphia Psychiatric Society; Ex-President of the American Neurological Association, and of the Philadelphia Neurological Society; Foreign Corresponding Member of the Neurological Society of Paris, and of the Neurological and Psychiatric Society of Vienna; Member of the Royal Medical Society of Budapest, etc., etc.

The author's aim, as stated in the preface, has been to present the clinical aspects of Mental Diseases in a practical manner for the use of the family physician, and taken as a whole he has well accomplished his task. The book has the merit of being free from useless anatomical and theoretical discussions, is clear and pleasant in style and sufficiently comprehensive to cover the subject-matter on hand. It is divided into four parts. Part I is devoted to delirium, confusion, stupor, manic-depressive insanity, dementia precox group, psychasthenia and dementia. Part II deals with the clinical forms of mental disease related to somatic affections. Part III psychoanalysis and interpretation of symptoms. Part IV, treatment.

At the present stage of psychiatric knowledge there could be no legitimate dispute as to the classification of the mental diseases, and the author has in the main adhered to the teachings of the Kraepelin school. In discussing delirium, subdivided into simple, febrile, afebrile, specific, and also of confusion there has been too much differentiation attempted, and on a careful perusal one fails to perceive the distinguishing features from his description. The clear cut and masterly analyses of toxic deleria given by Wernicke and Bonfoeffer and Hoch in this country are hardly touched upon. In the dementia precox group, while there is a lengthy dissertation on hallucinations and delusions, the characteristic and almost pathognomonic symptoms are not sufficiently emphasized, viz., the emotional apathy and the disharmony of the delusional contents with the affective reaction. Part III contains an excellent and critical review of Freud's teachings with the author's views as to the genesis of hallucinations and delusions. Under the caption of treatment the advices given are sound, sane and practical.

N. A. PASHAYAN.

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*Stammering and Cognate Defects of Speech.* By C. S. BLUEMEL. Published by G. E. Stechert & Co., New York City.

This striking work on a subject that is too little understood by the profession at large is in two convenient volumes of approximately three hundred sixty pages each. The first volume deals with the causality and the psychology of stammering, while in the second the author has reviewed and criticised the principal "systems" employed in the therapy of stammering in a fashion that reminds one of The Great American



Fraud Series that appeared in *Collier's Weekly* some eight years ago and delivered such stinging blows to the "nostrum evil" and the "quacks."

Five years ago, the author tells us, he began a systematic investigation into the cause of stammering. He took as his thesis the stand that the true theory of causality must explain *all* the facts that have been gathered by clinical observation—facts which when tabulated and reviewed do not always fit the more or less commonly accepted theories of causality.

He divides the causes into *primary* and *secondary*. The primary cause of stammering is transient auditory amnesia. The auxiliary causes are bewilderment; perversion of the verbal imagery; auto-suggestion giving rise to inhibition of the will; and fear—all *effects* of the primary cause. He declares that, if the auditory amnesia could be removed the secondary causes would quickly vanish. When elocutionary methods effect a cure, there can be little amnesia involved. Physical stammering may thus be eliminated in several weeks, but such miraculous improvement seldom progresses to a complete cure. The patient's complex stammering simply has been reduced to pure stammering. As to obviating the amnesia itself the author adopts a view not entirely new but stated with a directness and a clarity of thought that is quite refreshing.

After a review of some of the better known psychological methods suggested for activating or strengthening mental imagery—verbal, visual and auditory, the author declares that, if a complete cure is to be effected the stammerer must cease to be dependent to any great degree upon auditory images as speech-cues and must learn to depend more and more upon kinaesthetic and visual cues; that is, he must become an articulo-moteur or a visuo-moteur.

The first volume contains a striking chapter on The Verbal Image and an extremely readable chapter on the various types of Aphasia.

The tendency of most "systems" to anchor their hope in physiological rather than in psychological procedures, is censured.

Most of the elocutionary systems rectify the stammerer's errors of respiration, phonation and articulation, and are therefore good so far as they go. The trouble is, that they treat only symptoms but not the cause of the speech-defect. Any system based upon rhythm, the author denounces as "directly pernicious, since it distorts the stammerer's verbal imagery."

The lack of knowledge on the part of general practitioners of the more common types of speech defect and the dearth of comprehensive works in English to which the conscientious physician might turn for help in prognosis and therapy have been evident to anyone that is familiar with the histories of any considerable number of these cases as analyzed in institutions and special schools. As a result the "cure" of such cases has offered a rich field for the "quack," and the author gives us a very entertaining collection of stories about these "sellers of gold bricks" and their ingenious though infamous practices.

Timely references occur in both volumes to the wisdom of attacking

the primary disturbance at its very inception—during early childhood. If the primary cause is allowed to persist, the effects quickly show themselves, and pure stammering becomes stammering in its complex form.

Directly in line with this is the institution of special courses in the public schools for the instruction of stammering children—a procedure the need for which is apparent to any examiner of large numbers of school children. Bluemel declares that in thousands of cases stammering can be eradicated in early childhood when it would not be amenable to treatment in later life.

He points out as the duty of every municipality the provision for suitable instruction for its stammering school children, that later they be not “baffled at every turn of life, for want of that most common privilege of man.”

These volumes are offered by Bluemel as a text and in some measure as a therapeutic manual to stammerers, and with this purpose in view a glossary of several hundred words not defined in the body of the book has been appended. In spite of this the usefulness of the work along the line indicated doubtless will be limited at most to readers with a fair degree of training in modern physiology and psychology.

The style and method of approach are unique, and the restatement of some of the familiar and more generally accepted theories and methods are none the less refreshing because they come to us as “old friends,” for they are clothed anew and provoke new lines of thought and excite new questionings.

The books strike one as coming from the pen of an inquiring layman with the scientist's love of truth and a researcher's power to attend to the matter in hand. And after all, why should not these types of mind merge in the same individual? Are they not of the same fiber, color and timbre?

CLINTON P. MC CORD.

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*Principles of Surgery.* By W. A. BRYAN, A.M., M.D., Professor of Surgery and Clinical Surgery at Vanderbilt University, Nashville, Tennessee. Octavo of 677 pages with 224 original illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$4.00, net.

This volume conveys clearly and distinctly just what the term implies, and fills a rare space which, at the present time, is not any too well occupied regarding the fundamental principles of surgery. The language is plain, clear and concise, and Dr. Bryan's statements and conclusions are within the boundaries of the outline of the work. It is a very true quotation to make that “the relationship between surgical pathology and the resultant symptomatology” is here clearly shown. Carefully studied there is much in the volume that will be of vast help to the student, and especially to the general surgeon. One takes great pleasure in endorsing so valuable a contribution to surgery. A. V.

*Pyorrhea Alveolaris*. By FRIEDRICH HECKER, B. Sc., D. D. S., A. M., M. D. Illustrated. St. Louis, C. V. Mosby Company. 1913.

In this volume of 157 pages the author presents a very comprehensive history of *Pyorrhea Alveolaris*, a condition which certainly from its frequency and the seriousness of its results demands early recognition and intelligent treatment.

The subject-matter is considered under 12 chapters. The various forms of the disease and the various etiological factors are considered in detail and the methods of diagnosis and the treatment. Under treatment considerable attention is given to the use of vaccines.

The author is to be commended for his efforts in preparing this volume, and it should offer a stimulus to the dental surgeon in recognizing and treating this very important and very serious affection of the teeth.

G. E. B.

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*Genito-Urinary Diseases and Syphilis*. By EDGAR G. BALLENGER, M. D., Adjunct Clinical Professor of Genito-Urinary Diseases, Atlanta Medical College; Editor *Journal-Record of Medicine*; Urologist to Westley Memorial Hospital; Genito-Urinary Surgeon to Davis-Fisher Sanatorium; Urologist to Hospital for Nervous Diseases, etc., Atlanta, Ga., assisted by Omar F. Elder, M. D. The Wassermann Reaction by Edgar Paullin, M. D. Second Edition Revised. 527 pages with 109 illustrations and 5 colored plates. Price \$5.00 net. E. W. Allen & Co., Atlanta, Ga.

The present work is a second edition which Ballenger has brought well up to date by thorough revision and re-writing of the major part of the volume. The work contains over 500 pages and over 100 illustrations. The subject-matter is arranged in 36 chapters.

The first 10 chapters treat of gonorrhoea and its complications. A considerable space is given to the consideration of vaccine and bacterine therapy in the chronic gonorrhoeal infections.

A number of chapters are devoted to diseases of the prostate and seminal vesicles, including the operative treatment of prostatic hypertrophy. He covers in a rather inadequate way tumors, both benign and malignant, of the genito-urinary organs.

The last 10 chapters are devoted to syphilis and its treatment. His consideration of this disease in its latest aspects, including the Wassermann Reaction and the salvarsan and neo-salvarsan therapy, is thorough and will be found of great value to those interested in the latest methods of treating syphilis.

The volume is a fair example of book-making. In many instances the illustrations are poorly made and poorly reproduced, but on the whole the work is very commendable and will be found of value both to the student and the specialist.

G. E. B.

*Diseases and Deformities of the Foot.* By JOHN JOSEPH NUTT, B. L., M. D., Surgeon-in-Chief, New York State Hospital for the Care of Crippled and Deformed Children, Surgeon, Sea Breeze Hospital; Assistant Attending Surgeon, in charge of Orthopedic Cases, Willard Parker Hospital; Member of the American Orthopedic Association. Illustrated. New York: E. B. Treat & Company, 241-3 West 23rd St. 1913.

"Diseases and Deformities of the Foot" is a handbook of some 293 pages with 101 illustrations. In the preface the author states that, "This handbook is prepared for the use of physicians who have not had the time or the opportunity for thorough study of this often neglected subject and who feel keenly their inability to prescribe scientifically and successfully for the many who consult them regarding their pedal conditions."

The anatomy, physiology, and examination of the foot are discussed in the first three chapters of the book; following which there are chapters on weak feet, congenital club foot, paralytic diseases, tubercular and gonorrheal disease, and other ailments including painful heel, metatarsalgia, Morton's toe, hallux valgus, etc., etc. The last chapter is given over to a discussion of foot apparel.

The subject matter is presented in an entertaining and instructive manner and should appeal to that class of readers for which it is intended.

J. M. B.

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*Golden Rules of Gynecology.* Aphorisms, Observations, and Precepts on the Proper Diagnosis and Treatment of Diseases of Women. By GEORGE B. NORBERG, M. D., Professor of Diseases of Women and Clinical Gynecology, University Medical College; Gynecologist Kansas City General Hospital; Fellow and E-President Kansas City Academy of Medicine, Kansas City, Mo. Small octavo. The C. V. Mosby Company, St. Louis, Mo. 1913. Price, \$2.25.

This little volume of 252 pages is one of the "Golden Rule Series." The author states in the preface that the demands made upon the time of the general practitioner are so many and so varied that it is necessary for him to eliminate from his reading lengthy dissertations that repeat what has been said over and over again, and that often leave obscure the ideas that they intend to convey. Therefore it has been a constant effort to make short, emphatic, and convincing statements that may prove to be of practical value.

There are eight chapters as follows: General Considerations, Diseases of the Vulva, Diseases of the Vagina, Diseases of the Uterus, Diseases of the Tubes and Ovaries, Menstruation and its Disorders, Diseases of the Urethra, and Diseases of the Bladder.

The book contains a good deal of practical and concise information on the subject of gynecology, and one will find this work a handy and helpful little reference book, as it contains so many valuable practical suggestions.

T. L.



*A Compend on Bacteriology Including Animal Parasites.* By ROBERT L. PITFIELD, M. D. Second edition. With 4 plates and 85 other illustrations. pp. 270. Philadelphia: P. Blakiston's Son & Company, 1913.

This small handbook of eleven chapters embodies the important principles of bacteriology. The concise clear style makes its contents readily available for the student in preparation for examination. The book will prove of value also to the practitioner who may want a brief presentation of facts. The chapters on immunity and filterable viruses are particularly noteworthy and include the more recent contributions. The illustrations and plates are helpful additions to the text.

H. S. B.

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*Himself.* Talks with Men Concerning Themselves. By E. B. LOWRY, M. D., Author of "Herself," "Truth," etc., and RICHARD J. LAMBERT, M. D. Cloth, 12 mo. \$1 net. Forbes & Co., 443 South Dearborn Street, Chicago, 1912.

This little book of 193 pages on sexual hygiene covers a wide range of topics on this subject discussed in non-technical terms. It is well written and instructive, and the chapters on "The Protection of Wives and Daughters," "Shall the Unfit Marry," "Sterilization of the Unfit," "Medical Fakes," and "How to Defer Old Age" are especially interesting, and contain a great deal of information not usually included in a book of this kind. It is to be highly recommended as a work which covers thoroughly the purpose for which it is intended.

T. L.

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*International Clinics.* A quarterly of illustrated clinical lectures and especially prepared original articles on treatment of medicine, surgery, and specialties, by leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, M. D., Philadelphia. Volume 1, 23rd series, 1913. J. B. Lippincott, Publishers. Price, \$2.00.

Aside from the usual interesting and instructive articles, this volume contains the annual summary of the world's progress in medicine during the past year (1912). The following are some of the interesting themes touched upon by the editors, Drs. Cattell and Johnson, in this section of the volume:

The working of the National Insurance Act for the United Kingdom. This law, which went into effect on January 15th, bids fair to revolutionize the practice of medicine in Great Britain and Ireland. It undoubtedly is proving beneficial for the small wage-earner, but there still appears to be need for adjustment of details in its harmonious working. All writers appear agreed that the tendency of the practice of medicine is toward greater governmental control, some even suggesting that eventu-

ally, all physicians and pharmacists will be government employes, with fixed salaries and specific duties.

*The Criminal Abortionist.*—This article deals with the problem of the legal responsibility and professional reputation involved upon the part of the physician who attends a patient suffering from the effect of criminal abortion practiced by another. The author proceeds to cite a case where the prosecuting attorney for the people maintained that the physician in attendance upon the deceased patient should have notified the proper legal authorities of the fact when called to take charge of the case. The coroner, on the grounds of confidential communications, exonerated the physician of all liability.

*Fee Splitting.*—After rehearsing the usual arguments, pro and con, of this vexed question, which has occupied such a large place in medical journals of late, the author cites Dr. A. T. Bristow's suggestive remedy, namely, that the surgeon and family physician render their account jointly, thus disarming criticism, and, at least, having the merit of offering an honest solution to the problem.

*Army Canteen.*—All interested in this subject cannot fail but to be surprised at the diversity of opinion arrived at by those best qualified from personal knowledge to judge of the facts. It would seem that a disinterested commission should be appointed to settle, once and for all, this perennial dispute.

*A Distinguishing Title for Surgeons.*—The Clinical Congress of Surgeons of North America placed themselves on record as favoring certain mandatory requirements for those members of the medical profession who assay to practice surgery. The subject, doubtless, will receive further attention from the Congress of Surgeons, which meets this month (November) in Chicago.

H. D. C.

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## MEDICINE

Edited by Samuel B. Ward, M. D., and Charles K. Winne, Jr., M. D.

*The Diagnosis of Tuberculosis of the Kidney.*

FLOYD E. KEENE and JOHN L. LAIRD. *The American Journal of the Medical Sciences*, Vol. CXLVI, No. 3, September, 1913.

The writers point out that it is only comparatively recently that renal tuberculosis has been recognized as a distinct pathological entity amenable to treatment offering excellent chances for cure, in comparison with the earlier view that it was merely a terminal manifestation of a general tuberculosis or a rare disease difficult to diagnosticate and impossible to cure. Though there are several possible avenues for infection of the kidney with tuberculosis, it is now generally recognized that it takes place by way of the blood stream, and that it is primarily unilateral in a great majority of the cases.

Excluding miliary tuberculosis, which is only the local manifestation

of a general miliary tuberculosis, the writers group the cases of tuberculosis of the kidney into the following classes: 1. Following a more or less general eruption of tubercles, general fibrous proliferation occurs throughout the kidney, the capsule also being often involved, transforming the organ into a dense irregular mass resembling a neoplasm. There is little or no tendency to caseation, but if it does occur it is quickly surrounded by fibrous tissue often impregnated with lime salts. 2. Ulceration of the renal papillae, so-called tuberculous papillitis. 3. The most common type, in which one or more cavities develop at the junction of the cortex and medulla and not infrequently at one or other of the poles. These cavities vary greatly in size and may or may not communicate with the renal pelvis. There is generally a chronic interstitial nephritis of the remainder of the renal parenchyma. 4. Tuberculous pyonephrosis, a type which may be considered as often the terminal stage of the others, with almost or quite complete destruction of the kidney substance. Secondary infection may occur, engrafted on the tuberculous process, converting the kidney into a huge pus sac.

Complicating any or all of these types of pathological change in the kidney, there commonly occurs an involvement of the ureters and bladder varying in degree from the appearance of a few tubercles to a most destructive process with ulceration, fibrous hypertrophy and contraction. Involvement of the ureters and bladder is almost always secondary to a primary renal focus and is urogenic in origin. Primary tuberculous cystitis is so rare that its occurrence, at least in the female, means almost invariably that we have to do with a primary focus in one or both kidneys. With the occurrence of tuberculous cystitis ascending infection of the opposite kidney by way of the ureter is very likely to follow.

The writers point out the comparative rarity that renal tuberculosis is diagnosticated or even suspected by the average general practitioner. The common symptom of vesical irritability is usually assigned to some "cause" such as nervousness, idiopathic irritability of the bladder mucosa, uterine displacements, etc. They mention as a safe working rule, that every bladder presenting symptoms should be considered as the site of an organic lesion and no effort should be spared to determine the exact nature of that lesion.

The writers have reviewed the histories of twenty-five cases of tuberculosis of the kidney, and have summarized the symptomatology thus presented. They point out the rarity with which the symptoms are directly referable to the kidney itself. Even in the cases of enormous pyonephrosis or complete occlusion of the ureter the most the patient may experience is a dull indefinite aching sensation in the lumbar region, and even this may be entirely absent. On the other hand the pain may be so severe as to warrant a diagnosis of calculus. This pain may be due to sudden blocking of the ureter by a thick plug of pus, or may be associated with extensive perinephritis or periureteritis.

The most prominent symptoms during the entire course of the disease and often the first ones noted are those referable to some abnormal-

ity in the function of the bladder. Usually starting with a painless polyuria, all degrees of dysuria are met, including the most intense strangury and even complete incontinence. These are not necessarily due to any organic lesion of the bladder itself, for even in the earliest stages of involvement of only the renal parenchyma the vesical irritability may be intense. This is hard to explain, but is thought to be of reflex origin through the intimate nerve connections between kidney, ureter and bladder, or to irritation by some toxin eliminated in the urine. These symptoms may be decidedly intermittent in their severity, with intervals of comparative comfort between the acute attacks. In the writers' series of cases there were only two without some indication of bladder involvement, and in both of these there was increased frequency of micturition without dysuria.

In addition to local symptoms, those commonly present with any chronic infection are seen. While early there is little impairment of the general health, sooner or later there are indefinite gastro-intestinal symptoms, progressive loss in weight, and early and easy fatigue. There is little disturbance of temperature, at most a slight evening rise, in the absence of a mixed infection or a general tuberculous process; when either of these conditions are present irregular fever with chills and sweats are common.

Except in the earliest cases, limited to a small abscess in the cortex, some degree of pyuria is the rule. This varies greatly in amount, largely depending upon the degree of the bladder involvement, whether or not a mixed infection exists, also whether or not the renal abscess connects with the pelvis of the kidney, and the degree of ureteral occlusion. The amount of pus may show great variations from time to time, a point characteristic of tuberculosis of the kidney. Albuminuria is usually present, but small in amount as compared to the degree of renal involvement. Macroscopic haematuria is not often seen, and is generally of vesical rather than renal origin, except in the cases of tuberculous papillitis, when profuse haematuria is the rule.

The objective findings depend upon the type of the disease as well as upon the degree of involvement of the bladder and the ureter. The kidney may or may not be enlarged, or the enlargement if actually present, may not be detected. If an enlarged kidney is discovered it may not necessarily be the one diseased, since this increase in size may be due to compensatory hypertrophy of the sound side. Tenderness, especially at the costo-vertebral angle is rarely absent, and is directly proportionate in amount to the extent of perinephritis. When the disease has extended down the ureter, tenderness may be elicited along its course, though actual palpation of the thickened ureter by means of abdominal examination is doubtful. Thickening of the vaginal portion of the ureter is readily made out, and when found is very suggestive, though not pathognomonic, of tuberculosis.

The tuberculin reaction is considered by the writers as of little value except in the presence of increased bladder or kidney symptoms.

Cystoscopic examination is regarded by the writers as the most



important means of diagnosis of tuberculosis of the kidney, together with that of the ureter and bladder, especially when combined with ureteral catheterization, one or more of the functional kidney tests, and microscopical and bacteriological studies of the urine thus obtained. The latter methods are of especial value in determining whether one or both kidneys are involved and, if only one, whether the functional as well as the anatomical integrity of the opposite kidney has been retained. In the writers' opinion, though there is a theoretical objection to ureteral catheterization on the sound side in these cases, due to the danger of promoting an ascending infection from an already diseased bladder, yet practically, if due care be exercised, the danger is but slight. In discussing the involvement of the bladder the writers distinguish between tuberculosis of the bladder, a purely local process, perhaps only about the orifice of one ureter, and tuberculous cystitis. In the latter condition the disease not only involves the vesical mucosa generally, but perhaps the musculature as well.

Radiography occasionally gives valuable information. Sometimes a cortical abscess may cast a shadow when a deposit of lime salts is present, but this is so rare as to be of little practical importance. By means of ureteral catheterization and the injection of collargol, radiographs may reveal not only ureteral strictures but also abscesses in communication with the pelvis of the kidney.

In obscure clinical cases the use of laboratory methods is our only means of positive determination, and in every case their aid should be invoked. The diagnosis of renal tuberculosis in the female is practically determined by positive tuberculous findings in guinea pigs inoculated with urinary sediment. In the male, however, the close relationship between the urinary and genital tracts renders necessary the differentiation of the two as the possible seat of infection, and this lies principally in the clinical field. As the kidneys are the usual seat of primary infection with tuberculosis in the urinary tract, so the epididymides are the usual primary seat of infection in the genital tract.

Until the last few years the laboratory method of diagnosis has depended upon the intra-peritoneal or subcutaneous inoculation of rabbits or guinea pigs. These methods consume about six weeks' time or the time required for general tuberculosis to develop in the inoculated animals. To save this valuable time, Bloch, in 1907, advocated the inguinal method of inoculating such animals, which requires only ten days for a positive diagnosis. The writers describe the method in detail, which is essentially, after bruising or otherwise injuring the inguinal glands in an animal in situ to inject it just below the inguinal region with carefully centrifugalized sediment from suspected urine. After ten days' time the animal is killed and evidence of tuberculous infection is sought for in the inguinal glands. A control animal is inoculated in the usual manner at the same time with another portion of the sediment, and a third portion is carefully examined microscopically after appropriately staining for acid fast organisms. Owing to the practical impossibility in the writers' opinion of microscopically

differentiating tubercle bacilli from other acid-fast organisms, they advise against differential staining along these lines.

The writers give in detail the results obtained by them with both methods of animal inoculation as compared with the clinical findings in the cases. Of 58 cases there were clinically positive, 22; negative, 29; and doubtful, 7. By each method of animal inoculation there were 17 cases positive for tuberculosis, 40 negative, and 1 doubtful, the latter caused by the premature death of the animal. Of the positive cases 77.3 per cent were so shown by animal inoculations. The seven clinically doubtful cases were all negative by animal inoculation, by both methods. One case positive by both animal methods was shown at operation and by the later clinical course to be negative. Of the five clinically positive cases which were negative by animal inoculations, two were closed cases, the ureter in each case being entirely occluded, one had advanced bilateral renal tuberculosis which shortly caused death, and the others were frank cases of unilateral renal tuberculosis.

Among the many conclusions drawn by the writers from their studies are the following bearing upon animal inoculation methods:

"A positive laboratory result by either method determines the diagnosis of tuberculosis of the genito-urinary tract; of renal tuberculosis in the female, the exact focus in the male to be determined by additional clinical and laboratory means."

"A single negative laboratory result, regardless of thoroughness of examination, does not determine an absolute negative diagnosis of renal tuberculosis, as the manifestation of this disease is essentially intermittent. Negative results obtained in three successive weekly examinations should, however, bear considerable weight in the diagnosis."

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#### *The Presence of Tubercle Bacilli in the Feces.*

A. T. LAIRD, G. L. KITE, D. A. STEWART. *The Journal of Medical Research*, Vol. XXIX, No. 1, October, 1913.

Although there is a general impression that acid-fast bacilli are often found in the stools of normal individuals, references in the literature to the actual demonstration of acid-fast bacilli, other than tubercle bacilli, in human feces are very few. The examination of animal feces along the same lines has likewise been devoid of positive results. Many observers have found acid-fast bacilli in the stools of tuberculous patients, but until recently they have been looked for mainly in cases showing intestinal symptoms and their presence has frequently been considered as proof of the existence of intestinal tuberculosis.

The writers summarize the literature upon the finding of acid-fast bacilli in the feces of persons suffering from tuberculosis, both pulmonary and other forms. In all there have been reported examinations upon 362 such patients, in the feces of 285 of whom acid-fast bacilli were found. Of these patients 194 had tubercle bacilli in their sputum, and of these 188 showed acid-fast bacilli in their feces. Of 76 tuber-

culous patients without bacilli in their sputum, 48 showed them in their feces. One observer found acid-fast bacilli in the stools of 17 patients among 24 who had tuberculosis but no sputum. Another reports bacilli in the feces of 21 per cent of 1,033 persons with or without tuberculosis, but with no bacilli in their sputum. One writer reports animal tests made with the feces of 24 advanced cases of pulmonary tuberculosis, in 23 of which the guinea-pigs showed tuberculosis.

Laird and his associates examined the stools of 155 patients for the presence of acid-fast bacilli. Eighty-three of these patients had positive sputum at the time of the examination and of these 60 (or 72 per cent) showed acid-fast bacilli in their feces. Of the patients without bacilli in their sputum, all but two were free from bacilli in their stools.

For these examinations smears were made either directly from the feces or from the sediment resulting from the treatment of a small mass of fecal material with antiformin, and stained in the usual way with the addition of 95 per cent alcohol to the decolorizing fluid. The bacilli varied greatly in numbers in the different cases.

Many attempts were made to cultivate tubercle bacilli from these stools, but were uniformly unsuccessful.

Guinea-pigs were inoculated subcutaneously in many instances with either portions of the feces or with the antiformin-feces coagulum. Feces in which acid-fast bacilli could not be demonstrated as well as those in which they were easily found were examined in this way. Of 87 "pigs" injected with acid-fast bacilli-containing feces 48 developed tuberculosis, 14 did not, and 25 died of other infections at too early a period for the test for tuberculosis to be of value. Of 34 "pigs" inoculated with feces in which acid-fast bacilli could not be demonstrated in slides, one became tuberculous, 22 were negative, and 11 died of other infections. The large number of "pigs" which showed tuberculous lesions after being inoculated with feces containing acid-fast bacilli, together with the almost uniformly negative results from the other series of animal inoculations, tends to show that the acid-fast bacilli were tubercle bacilli.

The writers discuss the probable source of the bacilli in the feces. They conclude that it is most generally from swallowed sputum, often done unconsciously, especially during sleep. Another possible source is discharging ulcers in the bowel which are probably more common than are supposed. Another possibility is that they pass into the intestinal canal either directly from the blood or indirectly through various excretions or secretions. The writers do not, however, lay much stress upon the bacteriemic theory.

In view of their own findings and those reported in the literature, they advise the careful disinfection of the stools of all patients with open tuberculosis, and the careful disposal of the same in such a way as to avoid all danger to any water supply. In view of the resistance offered by the tubercle bacillus to antiformin, they point out that the hypochlorite method of water treatment would probably be insufficient to remove them from the contaminated water.

*Cultural Results in Hodgkin's Disease.*

C. H. BUNTING and J. L. YATES. *The Archives of Internal Medicine*, Vol. 12, No. 2, August 1913.

*An Etiologic Study of Hodgkin's Disease. (Preliminary Note.)*

C. H. BUNTING and J. L. YATES. *The Journal of the American Medical Assos.*, Vol. LXI, No. 20, Nov. 15, 1913.

In their earlier article the writers report the results of various attempts made by them during a period of five years to secure cultures from material removed at operation or autopsy upon cases of Hodgkin's disease. The first attempts were made with ordinary media and proved unsuccessful. After these failures the writers concluded that special media must be required, and as at this time they felt from certain observations that the organism was one of the higher forms of bacteria, if not a fungus, media appropriate to the growth of these organisms was selected. Dorset's egg-medium and glycerine-phosphate agar were first tried.

Their cultural results may be summarized as follows: In four cases of Hodgkin's disease they secured a pure culture of a pleomorphic diphtheroid organism. In two other cases the organism was recognized in cultural attempts, but was not secured in pure culture, and in a seventh case a similar organism morphologically, was stained in the lesions of a primary intestinal Hodgkin's case. The organism was found to grow readily at body temperature on the media used to secure the cultures and on ordinary agar-agar. On glycerine-phosphate-agar the growth was almost as luxuriant under strict anaerobic as under aerobic conditions. For luxuriant growth, marked moisture of the medium seemed necessary. On a relatively dry medium, growth was slow, and the organisms were found to develop as long forms, granular, banded, and with many club-shaped involution forms. Branching forms were also noted. These forms were especially well developed on the egg-medium, where they also seemed to cohere, so that on stained smears there were found many groups of organisms radially arranged, suggestive of a minute actinomyces colony. On moist serum tubes with luxuriant growth, the organisms were short and plump, with polar staining; many of these forms were coccoid. In old cultures the coccoid forms predominated. A colony which at twenty-four hours showed only the bacillary forms would later show an apparent outnumbering of the bacilli by the coccoid elements. The organism stained by the Gram method, it was not acid-fast, and no spore formation was noted.

The writers summarize the recent report of Negri and Mieremet on their successful cultivation from two cases of Hodgkin's disease of an organism which falls in the diphtheria group and further agrees in morphology with the forms described by Fraenkel and Much as found by them, in twelve out of thirteen cases, in the sediment resulting from the treatment of Hodgkin's nodes with strong antiformin. They con-



sidered them as non-acid-fast tubercle bacilli "possibly identical with the ordinary tubercle bacillus," but "more probably a special form of the tubercle virus," or at least "belonging to a related group of organisms."

Bunting and Yates conclude that the organism obtained by them is the same as that found by Negri and Mieremet, and probably the same as that described by Fraenkel and Much, and are inclined to believe that it is the causal organism of Hodgkin's disease.

In their later article the writers give merely a preliminary report of the early results of inoculation experiments with the organism previously described by them. For this work Rhesus monkeys were used, the results obtained with only one being given at this time. They say: "While we cannot yet claim that by the inoculation of the organism in question we have produced Hodgkin's disease (meaning the firm establishment of the organism in the animal and a continued and progressive enlargement of the general lymphadenoid tissue), we can say, that by repeated injections we have produced progressive enlargement of a single group of lymph-nodes which show histological changes identical with those seen in the lymph-nodes of human beings, where the disease is of the same duration."

The lymph-nodes showed a chronic lymphadenitis with atypical proliferation of the stroma tissue, and a well marked eosinophilic infiltration; also a periglandular sclerosis. Clinically the animal's blood showed an absence of polymorphonuclear leukocytosis after injections. An increasing percentage of mononuclear elements was found, particularly of the transitionals, an increase in the eosinophiles following a primary fall, and an early increase in basophiles, all of which are characteristic of Hodgkin's disease in the early stages. No rise of temperature was noted in the monkey following the injections or accompanying the subsequent glandular enlargement.

With the picture in the lymph-nodes so similar to that of the early stages of Hodgkin's disease in the human being, and with the blood-picture showing the blood changes in human patients with the disease the writers are more assured of the etiological relationship to the disease of the organism which they have described, and which they have designated *Corynebacterium hodgkini*.

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#### *Experimental Streptococcic Arthritis in Monkeys.*

O. M. SCHLOSS and N. B. FOSTER. *The Journal of Medical Research*, Vol. XXIX, No. 1, October, 1913.

It has been frequently shown by different observers that different varieties of streptococci when injected into the blood stream of animals are capable of causing arthritis. For the reason that rabbits seem most susceptible to joint involvement they have most often been used, but owing to the fact that these animals usually die after a single injection

tion sufficient to cause joint involvement and therefore the effect of repeated injections cannot be observed and chronic arthritis cannot be produced, the writers thought it advisable to use a larger and more resistant animal.

Four rhesus monkeys were used in these experiments and all received repeated intravenous injections of a strain of *Streptococcus pyogenes* (hemolyticus) which had been isolated from the tonsils of a patient with acute arthritis. From time to time the virulence of the organism was increased by passage through mice. Rabbits were used for preliminary injections to determine whether the organism was capable of producing arthritis. Five rabbits were injected intravenously and in each instance developed acute suppurative polyarthritis, in one instance together with an acute vegetative endocarditis of the mitral valve.

Each monkey showed at a varying period from two to ten days after injection a rise in temperature to 102° to 106° and varying degrees of general disturbance of health. Synchronous with or shortly following the rise in temperature an acute polyarthritis developed similar in many respects to "rheumatic fever" in man. As a rule several joints were affected successively, those first involved showing improvement or complete recovery before others were affected. The inflamed joints were swollen, hot, tender, and active motion was restricted. They contained a seropurulent fluid which in each instance showed streptococci in smear or culture. Single attacks left no apparent organic change which was shown by the fact that joints which had been greatly inflamed showed no loss of function during the life of the animal and no demonstrable lesion on post-mortem examination. Repeated attacks caused chronic arthritis evidenced clinically by disturbed joint function (limitation of motion and contraction) and pathologically by thickening of the periarticular tissue and the synovial membrane, the formation of a synovial fringe and in one instance erosions of the cartilage. In one monkey an adherent pericarditis was found at autopsy and another died of bronchopneumonia.

Single injections of the organism and the resulting arthritis did not cause an immunity, for subsequent injections were still capable of causing acute arthritis. Repeated injections, however, caused the animals to become immune not only to the strain of streptococci used in the experiments but apparently also to other similar organisms from different sources. As a rule the microorganisms were present in the blood stream at the time the arthritis appeared, but a few days later, even though active arthritis was still present, blood cultures were negative. This fact possibly has some bearing on the failure to isolate organisms from the blood of man with "rheumatic fever."

Myocardial changes were found in three animals and consisted of slight vascular thickening accompanied by perivascular cellular accumulations. Similar nodules were found in the periarticular tissues, and in one animal in the periportal spaces and also in the connective tissue of the kidney, in the spleen and lymph nodes. These nodules suggested,

but were not identical with, the submiliary myocardial nodules described by Aschoff and others as being almost constantly found in association with "rheumatic fever" but absent in other diseases.

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*Ante-Mortem Thrombosis in the Right Heart and Pulmonary Arteries as a Cause of Death in Lobar Pneumonia.*

R. A. FLEMING. *Edinburgh Medical Journal, New Series, Vol. XI, No. 3, September, 1913.*

The author designates as ante-mortem blood clot the firm, opaque, fibrous clots found in the right heart in certain cases of croupous pneumonia. They may arise in the right auricle or ventricle; they are attached firmly to such structures as the muscoli pectinati of the right auricle, the chordae tendineae of the tricuspid valve, and the columnae carnae of the wall of the right ventricle, and they extend through the pulmonary orifice, the clot generally having moulded on it, if it be extensive, the impression of the pulmonary cusps, and they may reach into the quite small branches of the pulmonary artery. These clots are not adherent to the pulmonary arterial wall, and they often show some colored and obviously post-mortem clot associated.

In post-mortem examinations of sixty-one cases of lobar pneumonia, there were found thirty-nine showing ante-mortem clotting in the right auricle, right ventricle and pulmonary arteries; and of these thirty-nine, in sixteen the clot was adherent and large in amount, while in the remaining twenty-three it was mostly colorless but not adherent.

Of the balance of the sixty-one autopsies, in twenty-two cases nine showed only colored clot in the right heart, and in thirteen there was fluid blood with little or no clot of any kind. In most of the cases noted as showing adherent colorless clot in large amount there was a small amount of similar clot in the left heart.

The obvious signs of such thrombosis occurring during life are increased engorgement of the jugular veins in the neck, associated with gradual weakening and later disappearance of the second sound at the pulmonary area. In every one of these cases in which there was extensive ante-mortem clotting in the right ventricle and pulmonary arteries, there was marked dilatation of the right heart.

The clinical value of early recognition of this condition is obviously of great importance. If there is danger of cardiac and pulmonary thrombosis, then stimulation, particularly of the heart, should be the routine treatment for all cases in which such thrombosis may be expected to occur.

Every case of croupous pneumonia should be treated early, and continuously, by the administration of a direct cardiac tonic, such as digitalis or strophanthus.

Such diffusible stimulants as spirit of chloroform and aromatic spirit of ammonia should be given at once if the heart shows any signs of difficulty.

Oxygen may counteract the excess of  $\text{CO}_2$ , which, according to Wiener and others, aids clotting.

It might be wise to depart from the usual plan of preventing any change of posture of the patient in bed. In fact, altering the position of the patient may be actually beneficial.

The use of anti-thrombin ferment would be ideal, but at present it is not within the scope of practical therapeutics. Citric acid in thirty to sixty-grain doses four-hourly has been much commended in cases of venous thrombosis, and Sir A. E. Wright supports this method of treatment. Addis has, however, demonstrated its futility in a small series of cases.

If we are convinced that ante-mortem clotting is a cause of death in pneumonia, bleeding should never be performed unless in particularly robust patients, and never for what looks like engorgement of a dilated right heart. It may only aid thrombosis which has already begun. Auscultation of the pulmonary area should in any case be first carefully carried out.

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## NEUROLOGY

Edited by Henry Hun, M. D.

*Cerebral Syphilis. A Clinical Analysis of Twenty-Six Cases—Seven with Autopsy.*

D. K. HENDERSON. *American Journal of Insanity*, Vol. LXX, No. 2, October, 1913.

Henderson's article deals with the effect of syphilis upon the nervous system, and more especially as a factor in the causation of mental disease. It is probably one of the most potent factors in the production of all degrees of congenital feeble-mindedness, and by most physicians it is recognized as the sole cause of general paralysis, locomotor ataxia, cerebro-spinal syphilis, and as a contributory factor in the development of many other organic conditions.

Syphilis of the nervous system is a relatively frequent disease as, according to Dana, from five to ten per cent of all those affected by syphilis develop an affection of the nervous system. Other observers put the average at from one and one-half to three per cent. Mott asserts, however, that owing to the increased strain of living and owing to the conversion of a rural into an urban population, syphilitic affections of the nervous system are greatly on the increase.

The rôle of cerebral syphilis as a cause of mental disease has, however, not been quite fully realized, and a glance through the literature is sufficient to show how scarce the systematic and detailed presentations of the subject really are.

Henderson's object in presenting this thesis is to try to prove that cerebral syphilis has a definite place in the organic psychoses, that there



are certain symptoms and signs in cerebral syphilis which, when taken together, make up a symptom-complex which is characteristic of cerebral syphilis, and which allow us to differentiate cerebral syphilis from any other affection. It is true that in cerebral syphilis, as in other disease entities, *e.g.*, general paralysis, dementia praecox, etc., there are a certain number of cases that may be considered atypical, but a disease entity is formed by a majority of cases, and it may be therefore stated positively at the outset that the vast majority of cases of cerebral syphilis do show a characteristic symptomatology which allows us to diagnose these cases from cases of general paralysis, arteriosclerotic brain disease and other conditions.

The summary of this paper is as follows:

1. This thesis consists of the systematic clinical analysis of twenty-six personally observed cases of cerebral syphilis, in seven of which the diagnosis was confirmed by autopsy.

2. Cerebral syphilis plays an important part in the production of mental disease, and should occupy a more prominent place among the organic psychoses than it heretofore has done.

3. The spirochaete *pallida* has for long been surmised to be the causal organism, but it was not until 1910 that Strassmann first demonstrated its presence in the central nervous system of an adult with acquired syphilis; the second case is reported in this thesis.

Trauma, alcoholism, and physical and mental strain are important contributory factors.

Re-infection with syphilis is quite possible provided the initial infection has been thoroughly cured.

4. Anatomically, three main types of cerebral syphilis are differentiated; viz., meningitis, endarteritis, and gumma. Clinically, this differentiation is seldom possible, and is without practical value, as the treatment is the same in all irrespective of the type.

5. The majority of cases of cerebral syphilis develop within the first three years after primary infection, and rarely more than ten years after infection; this is in striking contrast to cases of general paralysis and locomotor ataxia, which almost invariably develop at a period more than ten years after infection.

6. In regard to the physical signs, the Argyll-Robertson phenomenon is the one on which most weight should be laid in differential diagnosis, as it is rarely present in cases of cerebral syphilis. Other important features are: (a) an acute onset with headache, dizziness, and vomiting; (b) cranial nerve palsies; (c) convulsions without loss of consciousness, but usually followed by permanent focal symptoms; (d) intactness of speech and writing; (e) absence of facial tremor.

7. Cerebral syphilis not infrequently causes pseudo-bulbar paralysis, and six cases of this affection have been reported.

8. The mental symptoms of cerebral syphilis are of the nature of those seen in acute organic reactions, and consist of confusion, delirium, amnesia, hallucinations, retention defect, and a poor memory for recent

events; in addition there is relatively little disintegration of the personality.

9. The Wassermann reaction must be considered in relation with the clinical picture in each individual case; when the Wassermann reaction with the cerebro-spinal fluid is negative, the diagnosis of cerebral syphilis is indicated.

10. It is frankly admitted that there is no pathognomonic sign for cerebral syphilis; but if the nature and character of the onset and the above-mentioned physical and mental symptoms and signs are correlated, a disease entity is formed which has every right to be considered characteristic.

11. Anomalous features, among which may be mentioned euphoria and grandiose ideas, and confabulatory states, are more common in cerebral syphilis than is generally recognized; special attention must be paid to the setting in which these features occur, because when occurring in a setting of confusion they mean practically nothing.

12. Recent statistics confirm one in the opinion that the prognosis of cerebral syphilis, as compared with other organic affections of the nervous system, is relatively good; the most favorable cases are those which develop soon after the primary infection, and those of a meningitic or gummatous type.

13. Mercury, no matter in what form administered, is an exceedingly valuable drug in the treatment of syphilis, provided that it is given in a systematic way. The best results are, however, probably obtained by combining mercurial and salvarsan treatment. Potassium iodide acts simply as an eliminative agent, and has no specific action on the spirochaete pallida.

The only safe treatment is prophylaxis.

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*The Clinical Recognition of So-called Latent Syphilis (Ueber das klinische Erkennen von sogenannten latenten Syphilitikern).*

WILLIAM W. GRAVES. *Deutsche Zeitschrift für Nervenheilkunde*, 49 Band, 3 Heft, 16 October, 1913.

Syphilis is a chronic infectious disease which attacks all classes. No age, neither sex, no social position and no degree of continence may be considered as a protection. It is different from all other diseases in its duration, with the single exception of leprosy. At any period of life the symptoms in an individual patient may change, so that it is not possible to foretell the result. Its symptomatology is as widespread as its special pathology. Scarcely an organ or tissue of the body which is not susceptible, and there are very few diseases which may not accompany it and modify its manifestations. It also is different from all other infectious diseases in its influence upon the descendants of its victims, for here its effects are most pernicious. As syphilis affects all classes of society and presents protean symptoms and consequences,

it reduces the general resistance, modifies other diseases and the predisposition to them, and complicates them, and these effects reach not only the immediate offspring but are reserved for later generations. Inasmuch as there are no means to predict the termination of syphilis in any individual, all such individuals must be regarded as syphilitic. Although the numerous bacteriological measures for the determination of syphilis are helpful, they leave something to be desired for exactness, and often leave the diagnosis in doubt. It is still necessary to depend upon clinical observation. The writer then advocates a complete study of the individual rather than that the examination should close with the simple diagnosis of some apparent ailment. Such study involves careful examination of the family and personal history, including the course of incidental disturbances, as well as those shown on physical examination. Symptoms of lues are not seldom discovered in a wife or husband and the children when they are not apparent in the patient, so that a history of cutaneous or membrane symptoms and the like should be considered. On the part of the patient there are many preceding symptoms, as a sensation of discomfort, malaise, general uneasiness, pains sometimes appearing in one place and sometimes in another, physical and mental debility, torpor, gastric disturbances, vertigo, and occasionally slight elevations in temperature which appear for from six to twelve weeks after the infection and represent the reaction to the invasion of the spirochaete. These constitutional symptoms are interrupted by latent periods, so that there are variations in intensity in the various manifestations. These are quite characteristic. Certain local symptoms of syphilis are quite prominent, as paralysis of the eye muscles associated with diplopia, iritis, chorioiditis, localized pains, such as *tic douloureux*, intercostal neuralgia, angina, Jacksonian seizures, enlargement of the liver and spleen, together with symptoms on the part of the bones, joints and glands. On the part of the nervous system the most important symptoms are shown in the pupils, in the conditions of sensation and of the reflexes. Pupillary disturbances, such as inequality and asymmetry are of great diagnostic value. A very frequent manifestation is a pronounced contraction to the size of a pin-head, which may exist with or without the Argyll-Robertson phenomenon. Sensory changes are shown in transitory and constantly repeated pains of the neck, knees, hips and shoulders, together with spasm-like sensations in the muscles and *paraesthesiæ* in different regions of the body. Objective changes in sensation may also be determined. The reflexes should always be examined, and show great variations.

If we observe the entire individual and the various contradictory constitutional symptoms, if we note the pallor and the changes in the blood vessels which are out of all relation to the age and the general state of nutrition, if we consider pigmentation and the disturbances of the pupils, the sensations and the reflexes, then we may make a clinical diagnosis of so-called latent syphilis just as we may assume a definite opinion for tabetics and general paralytics.

*The Condition of the Brain in Death from Salvarsan (Über Hirnbefunde in Fällen von "Salvarsantod.")*

ALFONS JAKOB. *Zeitschrift für die gesamte Neurologie und Psychiatrie, Originalien*, XIX Band, 2 Heft, 17 September, 1913.

The most pronounced consequences of salvarsan upon the nervous system take the form of relapses of the nervous symptoms, and they have been regarded as due to true syphilitic processes. Certain diffuse disturbances of the central nervous organs have been much more difficult of interpretation, as they occur only occasionally and present severe cerebral symptoms suggestive of meningismus, tumefaction of the brain and hemorrhagic encephalitis. Where death has occurred in an acute form after the use of salvarsan, many different opinions have been expressed. In many cases the anatomical findings have been those of hemorrhagic encephalitis; in others, these acute changes have not been noted. It is denied on the one hand that death occurring in this way is due to syphilitic disease of the brain following a critical reaction, to which very different causes have been ascribed; among others the absence of fluid with consequent infarction of the various foci with the accumulation of destroying bacteria, traumatic influences from exertion and excesses, constitutional causes interfering with the proper elimination of salvarsan by the kidneys, states of shock and collapse, improper preparation of the solutions with excess of a arsenous oxide, the presence in the meningeal foci of spirilli, and, finally, the quantity of the dose used. Some authors have attributed these accidents to the toxic influence of the remedy itself, and symptoms of poisoning have been induced in guinea pigs by intravenous injections resulting in a clinical picture and pathological changes fully analogous with those appearing in men. In these cases the result was not a peculiar inflammatory process but showed multiple hemorrhages in the brain, due to stasis and thrombosis of the vessels.

Ehrlich and many other writers see in these cases of death from salvarsan an analogy to the Herxheimer reaction in the nervous relapses due to the unfavorable influence upon the syphilitic virus already present in the brain. In other words, salvarsan may produce conditions leading quickly to death in its influence upon syphilitic processes in the central nervous system.

Jakob has studied carefully three cases. In the first, a man who had been infected for two years showed slight symptoms of incipient cerebral disease which were favorably influenced by mixed treatment. The Wassermann reaction in the blood was negative, and in the cerebro-spinal fluid slightly positive. After a year in which there had been active inunction, two intravenous injections of four and five decigrams were given. After the second injection there was a chill, followed after two days by pronounced confusion and dullness, which increased to complete mental disturbance with spastic paraparesis and incontinence. The Wassermann reaction in the blood remained negative, but became



much more pronounced in the cerebro-spinal fluid with increased pressure, and the spinal fluid showed marked increase in albumen and cellular elements. This change in the cerebro-spinal fluid grew more and more pronounced, and after three convulsive seizures the patient quickly died. The anatomical examination showed a severe luetic process, localized in conformity with the clinical symptoms, in which there was a marked tendency to progression and expansion, associated with indications of regressive metamorphosis. These are, of course, peculiarities quite common to gummatous processes. In this case the clinical symptoms indicated a syphilitic process of very gradual and relatively mild development. From the two first injections of salvarsan there was undoubtedly influence on the condition and course of the disease; while the first dose was not associated with particular disturbances, the second was followed in a short interval by prolonged psychomotor excitement, followed by pronounced progress of the disease. The direct influence upon the syphilitic process was definitely shown by the change of the cerebro-spinal fluid, which indicated outspoken luetic meningitis. It is well known that salvarsan is especially fatal to the spirochaete, although it is not always efficient in destroying the spirochaete at one application; it is further known that the energetic influence of salvarsan upon accumulations of the spirochaete conduces to a strong reaction, which may be harmless in so far as the primary location of the foci is concerned, as upon the skin for instance, although in the brain or important nerve centers the severest consequences may ensue. These biological processes have been recognized under the name Herxheimer reaction, which for the most part is regarded as not especially a reaction of the spirochaete itself, but rather as a reaction of the spirochaetes upon the already developed inflammatory tissues whose anatomical presence is indicated by hyperaemia and oedema. How far a toxin plays a rôle in connection with the numerous destroying spirochaetes is not fully understood. That severe changes in the central nervous system develop very quickly upon the first injection of salvarsan is plainly shown by the acute symptoms of the highly organic disorder; this indicated very strongly that the reaction of a syphilitic process upon these doses of salvarsan was very violent. The clinical symptoms further indicate that salvarsan when it is used in relatively insufficient doses has still the power of promoting rapid progress of the pathological process, to energize spirochaetes in greater or less degree and to stimulate hitherto latent foci. This explains the so much to be dreaded relapses. This is fully explanatory in the case reported in which the relatively inactive course of the disease became so severe after the use of salvarsan when the syphilitic infection assumed a malignant character, for it is further indicated that the meningeal and cerebral process was entirely insusceptible to complete sterilization. The revelations of the cerebro-spinal fluid afforded the clinical opportunity for observation of the unfavorable influence upon the specific disease.

The two other cases reported by the writer show much the same

general course. Cases of rapid death following the use of salvarsan consequently revealed a marked relationship to the cases of relapse, inasmuch as they have in common the same reactions of the cerebro-spinal fluid.

The three cases reported by the author exemplify entirely different syphilitic processes in which reactive and degenerative changes in the meninges and the brain develop violently after treatment with salvarsan. It appears, then, that the salvarsan itself is not directly responsible for the fatal issue, but rather the cerebral syphilitic lesions and their reaction upon the tissues. Further observation is necessary for the careful discrimination in the use of this remedy that its unfavorable effects may be better understood.

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### LARYNOLOGY, RHINOLOGY AND OTOTOLOGY

Edited by Clement F. Theisen, M. D.

*The Value of Naso-Pharyngeal Surgery in the Treatment of Chronic Exudative Otitis Media.*

H. O. REIK, M. D. *Bulletin of the Johns Hopkins Hospital, September, 1913, Vol. XXIV, No. 271.*

The author believes that it is an accepted fact that chronic exudative otitis media, with its characteristic tendency to progressive deafness, has for its principal cause and continuous exciting factor some abnormality in the nose, pharynx or naso-pharynx—such as hypertrophied turbinates, deflected septum, hypertrophied or submerged diseased tonsils, or adenoids. He further believes that even after an acute exudative otitis media is established the ear can be restored to a normal condition and safeguarded for the future by prompt and proper treatment of the exciting factors in the nose and throat.

The author reports 34 cases of deafness depending upon some naso-pharyngeal abnormality, and from a study of the chart it is observed that in 32 cases there was immediate improvement of hearing to some degree and in 2 cases there was no apparent change, and in none was there any immediate loss of hearing. Later observations showed that of the 32 cases of immediate improvement, 26 remained improved, 4 showed additional improvement, and only 2 lapsed back from the first improvement to the previous state of hearing.

In conclusion the author sets forth very emphatically his belief that simply exudative otitis media which is due to abnormal or diseased conditions in the nose or throat can be arrested in its progress by removal of these exciting conditions; that in such cases the progressive deafness can be stopped and further loss of hearing prevented; that in some few cases the hearing power may be materially improved; and that success of this kind depends, however, upon the proper performance of naso-pharyngeal operations so that there shall be complete and thorough eradication of the abnormality without injury to neighboring normal structures.

# ALBANY MEDICAL ANNALS

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## Original Communications

### MENTAL DEFECTIVES.

*Discussion at the Second Capital District Conference of Charities and Corrections, at Albany, N. Y., March 8, 1914.*

#### REPORT OF THE COMMITTEE ON MENTAL DEFECTIVES

BY DR. ROBERT W. HILL,

*Superintendent State and Alien Poor, Albany, N. Y.*

Modern civilization, to some extent, prides itself upon the provision it makes for the unfortunate, the sick and defective. We have revised the old conception of social responsibility and are not in agreement with the doctrine which obtained a few generations ago that "Might makes right." Brute force on occasions has a value in this world but it is not entitled to rule, nor, fortunately for humanity, is it able any longer to control society. The sword has given place to another power, more subtle, more far-reaching, but requiring brains to use. The wireless telegraph sends out its pulsations to a much greater distance than the thunderings of the mightiest ordnance which we have been able to construct can be heard, and the nations, while still jealous of each others' powers and "spheres of influence," realize that Man must have more consideration than business or politics.

The prevalence of social unrest which all must recognize, is due more to the diffusion of knowledge than to the curtailment of opportunity, for without the schoolmaster and the press, ignorance would prevail and men not realize the fact that others have entered into possession of a portion of their birthright. The propaganda of socialism meets its measure of success because the spread of knowledge makes social evils apparent, but the intelligence that makes men realize the desirability of better things for themselves, compels them to recognize their obligation to others and therefore the age of thought leads to

the age of philanthropy. Among civilized people everywhere, the doctrine of brotherhood is now proclaimed, and as a consequence, hospitals, asylums, homes and other provisions are made for the weak and unfortunate. If we had figures covering five hundred years, it could be shown clearly there has been a large increase in the average number of persons who are cared for annually by what we call "charity," but it would also be proven that multitudes in former years who should have been the recipients of kindness, either died of neglect or disease, or were left to groan out their days without an effort on the part of society to alleviate the bitterness of their lot.

What is degeneration? It is a falling away from the normal standard of function and efficiency and it may affect both the body and the mind or either of them. Under some conditions, as improper food or untimely labor, it is more likely to weaken the body than the mental powers, except as the latter are dependent for their best work upon the physical machine, for it will be admitted that a normal mind may be associated with a body which falls below the ordinary standard of efficiency. The Bible tells us that in ancient times there were "giants in those days," from which one would infer that the development of the physical man had produced tribes or families whose members were physically greater than any of the peoples of the surrounding nations. We know also that when out of the northlands, the barbarians made eruptions upon the lands held under Roman rule, the Romans were impressed by the physical bulk and strength of their assailants. Yet the giants of ancient days, who represented physical development, were swept away and destroyed by the Davids of their times, and the large framed barbarians of the early Christian centuries, although temporarily successful, were ultimately absorbed by the very people whose lands they had over-run, and their characteristics of bulk, height, weight and physical strength were lost in most of their descendants. Size does not count compared with brains, for in a recent war, the small men of Japan defeated the larger Russians through better generalship and superior mentality. History then seems to tell us that the lasting world conquests have been made by the stocky races, and we may reasonably infer that there has been no degeneration so far as the physical man is concerned.



But what shall be said about degeneration of the mental power? Here we meet with a difficulty! In ancient times there was no such thing as general education as we know it. Few there were who attained scholarship. Reading and writing in some form has been known since the dawn of history but the power of expressing thought in that way was for centuries limited to the select class, who were trained in temple schools or the households of rulers. The common people toiled and gave little thought to the morrow, and less perhaps to the great mystery of life and its manifestations, which in all ages has been the chief stimulus of mind. There were feeble-minded persons then; there are mental defectives to-day, and while humanity lives and accidents occur, doubtless there will be unfortunates with defective mental powers.

In ancient times the feeble-minded "made sport" for the people, and we read in Scripture that David deceived the Philistines by presenting himself as a demented person, but in these days the mentally affected are pitied, not mocked nor made the victims of idle sport. If the index of progress is the attitude of the people toward the unfortunate, it would prove that in civilized countries, the tendency of the times is toward increase of mental power rather than toward decay. It has been well said that the degree of mentality is the measure of civilization and for this reason, the man of brains rather than the man of brawn is most important in the world's work.

In civilized communities, the unskilled laborer is useful and respected as a necessary unit in the State, and although he must work under direction, he counts as one citizen. But men of superior ability like Washington, Franklin, Lincoln, Longfellow, Lowell, and men of skill and genius like Eli Whitney and Edison, are often spoken of as "one in a thousand" or "one in ten thousand," and their services to humanity have a multiple value.

The theory of genius is that it crops up once in so often, sometimes from an obscure origin, but more often in families of known ability, as in the Darwin family, which not only produced Charles Darwin, author of "The Descent of Man" and "The Origin of Species," and his son, but Sir Francis Galton, a cousin, who laid the foundations of the new science of eugenics. The famous Bach family boasted thirty-three talented musi-

cians. Progress in music, art, science and government is made possible by those with special ability, and achievement in any age must be measured by the mental stature of a few citizens, and when several such mentalities exist at once, the period is considered one of great distinction. It was thus in the golden age of art and philosophy in Athens, the Augustan age in Rome, the Renaissance, the Elizabethan period in England, and in the latter part of the eighteenth century, which felt the intellectual power of Goethe, Schiller, Wordsworth, Burke, Pitt, Rousseau, Voltaire and many others in Europe, and Franklin, Jefferson, Hamilton, and Jonathan Edwards in America.

Traits usually run in families, although sometimes they appear isolated in individuals, and this is especially true of subnormality. There are special defects which mark family history for centuries and modern science seeks to control the propagation of similar stigmata. There are major defects, which destroy the usefulness of persons as citizens, viz., insanity, criminality, epilepsy and idiocy; and minor defects which we tolerate knowing that they are offset more or less by good qualities. These minor defects are in the line of bad temper, lack of judgment and forethought, indolence, unfaithfulness, personal conceit, etc. Just as special talents well used make for the advance of civilization and social institutions, so defects of mentality are recognized as the cause of most of the anti-social conditions in our communities. Racially, it is important to recognize these anti-social products and to limit the supply, for epileptics commit some of the most reprehensible crimes, feeble-minded persons are not infrequently pyromaniacs and destroy valuable property, the insane in their manias commit murder and nearly all criminals are recognized to be persons of unbalanced and uncontrolled mentality.

When society is studied in this way, it is from a comparatively new viewpoint. In earlier times attention was directed to the virtues and vices of rulers, but no one studied the influence of the common man upon the destiny of the race. Literature reflects this mode of thought. Until the eighteenth century the common man is practically unknown as the hero of a tragedy or romance. The dramas of the Greeks dealt with gods and goddesses, those of Shakespeare and Moliere mainly with kings and persons of high degree, but in the eighteenth

century, writers began to write stories about humbler persons, and the public found them interesting because they reflected ordinary life. Then dawned at last the great age of individuality and democracy and the least of God's creatures began to be considered of importance in a social as well as a religious aspect. The annals of the poor were sung in verse, witness Wordsworth's "Cumberland Beggar," Goldsmith's "Deserted Village" and Burns' "Cotter's Saturday Night" which brought up for consideration the episodes of everyday life and made possible diversified charitable endeavor. Then later the charity organization movement was born and the bearing of defect upon national efficiency recognized. Then too followed the various children's institutions, the schools for the blind and deaf, and those for the feeble-minded, villages for epileptics, alcoholics, tramps, vagrants, reformatories for men and women and training schools for young delinquents.

The twentieth century shows a reaction against massive institutions. It has been said that the immense congregate institutions which have been built are monuments to stupidity, but rather let us recognize them as milestones of progress and evidence of noble purposes. The people of this century see dependents, delinquents and defectives with better eyes than did the people of the middle ages who were content to give them an alms, or than did the people of the eighteenth and nineteenth centuries who gave greater attention to the unfortunate and to measures for alleviating their sufferings but with little thought to prevention.

This is a more practical age for we are less emotional and more scientific. Our ambition is not alone to alleviate distress but to prevent it and so anxious about the future are many thoughtful persons that they would segregate or sterilize every defective individual and thus in time, cut off defect. Our investigation of the poor has taken a new turn. We measure skulls and statures, inspect palates and the condition of eyes and teeth. We search for adenoid growths and study the shape of hands and ears. We look for asymmetries, test the grip and knee jerks and ask questions to determine the mental endowment. In our search for the causes of defect, we look up parents, grand-parents, and great-grand-parents, cousins, uncles and aunts, sisters and brothers, and if we trace a thread of

defectiveness in the family line, we recognize the sinister course of inheritance.

There are those who look for the causes of defect in environment and try to correlate mal-nutrition with inability to spell, and poor ventilation with failure in numbers. Investigators now make use of their knowledge of psychology, anatomy, physiology, anthropometry and heredity for the improvement of social conditions. This means that we live in an interesting transition period with regard to the treatment of public dependents and especially mental defectives. We seek for causes and find science as yet unable to answer all of our questions, hence we are carefully exploring the field and gathering data for analysis with earnest zeal like that of Agassiz and his associates more than half a century ago, of whom the poet writes:

"Said the Master to the youth:  
We have come in search of truth,  
Trying with uncertain key  
Door by door of mystery;  
We are searching through His laws,  
To the garment hem of Cause.

As with fingers of the blind,  
We are groping here to find  
What the hieroglyphics mean  
Of the Unseen in the seen,  
What the thought which underlies  
Nature's masking and disguise,  
What it is that hides beneath  
Blight and bloom and birth and death."

The trend of the times is toward vital results from research in this interesting field. If the study of mental defect helps to a better and more satisfactory knowledge of human nature and human frailty, if it opens up avenues of investigation into the matter of attention, association, instinct, emotion and will, if it settles scientifically the centuries-old debate concerning the freedom of the will and personal responsibility, the reward will be sufficient for the work.

It has been the purpose of the Committee to bring to your attention at this meeting some of the latest information with regard to the methods of examination now in use, and in order to do this, two superintendents of institutions, one for normal



children and one for defectives, a school physician in a large city and an investigator who makes a specialty of testing mentality have been invited to speak, each having professional and expert knowledge.

The methods now in use, although as yet not fully worked out, have served to throw light on dependency and defectiveness and are causing a radical change in the disposition of criminals by the courts and in the treatment of delinquents and backward children. As our means of diagnosis improve, we may reasonably hope for still greater progress in charitable work and social reform, for it will mean preventive methods and the gradual elimination of the unfit. The unborn generations are entitled to sounder bodies, saner minds, more effective education and purer morals. The Hebrew psalmist had a vision of this future happiness, the Greek philosopher contemplated the achievement of the "highest good," Virgil in his "Eclogues" sang of "The Golden Age" and prophets and statesmen have dreamed of the splendor of a rejuvenated race. But it has remained for social reformers of our age and for scientists of the practical school to urge the improvement of the race through nobler development and the elimination of the unfit. It may be our good fortune to have some part in the work which prepares for the race the glorious destiny foretold by the singers of old, and shadowed forth in the pictured "Utopias" which have expressed the ideals of many centuries.

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## CAUSES OF BACKWARDNESS IN CHILDREN.

By CHARLES H. JOHNSON,

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A backward child may in general denote any child who has not attained to the standard of intelligence usually accepted for its chronological age. Technically the term has been used to denote those cases which are on the border line of normality, that is, those who are not defective enough to be segregated in institutions and yet are not normal enough to associate successfully with normal children. Cornell in his discussion of this subject classifies the mentally deficient into three classes, the dull, the borderland, the feeble-minded. The dull child would be the "child who fails to do ordinary school work satis-

factorily, but nevertheless is normally intelligent in every day words and actions and not markedly peculiar." The borderland cases, which are technically termed "backward children," are "those so deficient intellectually that doubt exists whether to classify them as normal or feeble-minded." The feeble-minded are those "with incurable mental deficiency of pronounced degree originating previous to adolescence."

Adopting this general classification we can again divide the latter group—the feeble-minded—into subdivisions according to the degree of their backwardness. We would then have at the top the moron with an intelligence corresponding to that of a twelve-year-old child, the imbecile with an intelligence of a seven-year-old child, and the idiot who would be on the mental level of two years of age. All of these groups are capable of still further subdivision into low, medium and high. We have then a long line of mental conditions which may generally be termed conditions of backwardness, differing from each other principally in degree and only partly in cause.

Beginning at the bottom of this list we find that to us as social workers the lower grades of defectives and their causes are not of such vital interest. The apathetic or drivelling idiot, the leering imbecile, are so very defective that they can be of little social danger; they are so evidently incapable of development that it is apparent to every one that their need is not educational opportunity, but custodial care.

It is when we reach the higher grades of mental defect and approach the dim border line to the lower grades of normality that our perplexity arises. Here are the cases that cause us our educational troubles, those who clog up the grades and finally drop out and are lost. These cases cause us our industrial difficulties, filling the ranks of the low paid and unskilled laborers who are in and out of a job—mostly out—most of their lives. It is this class that creates many of our social problems of crime and delinquency. They recruit the ranks of criminals, prostitutes, vagrants, beggars and insane. Reform schools and penitentiaries report large numbers of their wards as "backward" individuals who are just across the line, mostly on the subnormal side. They are the despair of teachers, social workers, institution managers and criminal court judges. They are no special cause of worry to them-

selves. On the contrary, they are cheerful, pleasing individuals, often possessing good looks, but nevertheless a burden to their own generation and carrying within themselves the germ of a mental defect which may be transmitted to curse many coming generations. They are a present and a future menace.

The figures given us concerning their numbers also makes imperative a knowledge of the causes. Laughlin of the Cold Spring Harbor Eugenics Record office, states that ten per cent of us are so anti-social as to be unfit for parentage. Rittenhouse, president of the recently formed Life Extension Institute has stated that seventy-five per cent of the twenty million school children in the United States are more or less defective. Dr. Vaughan of Ann Arbor, says: "the American people are threatened with a spread of mental and moral degeneracy through the multiplication of the unfit." Dr. Gertrude Hall, of our own Conference says that "only one-half of the dependent children we have examined and tested in New York State are up to normal standard." Dr. Goddard estimates that at least two per cent of the children in the public schools are mentally defective and incapable of taking their place in society. If Dr. Schlapp could investigate Tannebaum's army to-night, he would probably find that most of that crowd were defective. Applying this ratio to New York City it means that there are 15,000 feeble-minded children in the public schools of that city.

The United States Bureau of Education puts the situation in this fashion: In a normal school population about one-half of one per cent of the children are genuinely mentally deficient; ranking above these comes a group of feeble-minded children, constituting about three and one-half per cent of the school membership. Ranking above these children comes a larger group of mentally sound, but slow, children. In the average city this group amounts to about thirty-three per cent. In most cities the majority of them are boys and they are normal individuals for whom the present school curriculum and regime are ill adapted.

However it should be borne in mind that abnormality presupposes a standard of normality. There seems to be at present no fixed or generally accepted form or standard of intelligence. The word "standard" has not here the definite meaning it possesses in other fields. In order to determine the degree of back-



wardness in the child numerous tests have been devised, all based on a supposed standard of normality for certain years. These tests vary however, and the degree of backwardness a child may be charged with will be decided largely by the standard accepted by the particular test and by the examiner. If you raise your standard you increase the number of subnormal children, if you lower it you decrease the number. The number of mentally backward or defective children then is largely dependent upon whether your standard of normality is high or low. Mental defect is not like typhoid or a broken arm either you have it or you have it not. There are so many shades and so many degrees of differentiation in the upper grades of defectives that it is not possible always to tell what it is you have found, or if you have really found anything. It is easy to say how many have physical defects or stigma of degeneracy, but it is not so easy to speak in a statistical way of feeble-mindedness. The decision of the nature and degree of mental defect or backwardness is not one that can be left to amateurs. So many elements enter here that expert opinion is extremely necessary.

However, making all due allowances for differences in testing methods, for personal equation, for insufficient knowledge of individuals, and other similar factors, we are nevertheless facing a situation that demands serious consideration at the hands of men and women interested as social workers in bringing in a better day and generation. We should feel with Shakespeare that "Now remains that we find out the cause of this effect; or, rather, say, the cause of this defect; for this effect, defective, comes by cause."

In seeking the causes for this distressing situation we find that there are certain causes which may lie back of all degrees of mental defectiveness or dullness. There are other causes which function most in mental dullness, and still others which function most strongly in pronounced mental defectiveness. Clear cut classification of causes in particular cases is difficult owing to the possibility of overlapping of causes.

There may be a backwardness in mental development due to lack of *educational opportunity*. All children are subject to retardation if they are absent from school. They may be retarded when illness keeps them much at home. It is backwardness due to absence from school. There may be a back-



wardness due to lack of opportunity. Many famous men were probably backward or retarded in their youth for this reason. With the opportunity came development.

It may be due to *domestic conditions*, with a consequent lack of inspiration. Environment has a larger place as cause of dullness than as a cause of actual mental defect. It is doubtful if a bad environment will cause real mental defect. Environmental defect may cause a condition similar to imbecility. Here however it is retardation and may be alleviated by education. Mythical stories have centered about wolf children, who are supposed to have become wolfish by association with wolves. These stories are usually mythical but may have for their bases children who were probably imbecile, as such children will often do things suggestive of animals. That environment affects the growing child for good or evil, and inspires or retards it, is however certain. Consider the home where ignorance and poverty abound, where the parents belong to that lower grade of foreigners perhaps who are interested neither in the mental nor physical welfare of their child and think only of its commercial value, and you will not marvel that there is a difference in the quality and quantity of the mental product of that poor child and its more fortunate brother who lives in a better environment. The domestic atmosphere of a child may have much to do with its rate of mental development, and if teachers could visit the home surroundings of their pupils they would understand the causes of many of the happenings in school. A school teacher was discussing her pupil-problems and was enthusiastic about one rosy little girl who was doing so well in her lessons. "But she has a splendid mother and I am not surprised that she advances," said the teacher. "Her health is properly cared for at home, she has the right recreations, and she hears intelligent conversation. Some of our poor little things who are backward can't be blamed for it. Poor neglected babies—ill fed, ill clad and not even clean. One little girl, eight years old, told me that she and her sister, six, got up and dressed themselves and got their own breakfast every morning, and left home for school without a kiss or a word from their mother, who lay sleeping in bed." A child in a western city had a horror of school, made no progress and was in state of mental depression. The cause here was not far to seek. His mother

loved him not wisely but too well. He had long hair, a lovely large bow on his chest, was always brought to and from school by his mother who did not wish him to speak to naughty boys, and at home was taught embroidery. Interesting examples of the effect of environment are children who have lived in orphan asylums of the old type, and children from the canal boats and coal barges. The lack of social contact by the former and the migratory life of the latter cause a backward mental condition which however is not due to mental defectiveness. Cornell says "Altho without proof for the assertion, it appears that an improper environment is the most frequent of the causes of dullness."

There may be a mental retardation due to *physical* causes. A boy may be neurotic from excessive cigarette smoking. In so far as his physical condition is affected, his mental processes may be, likewise affected. It is purely a functional disorder and in these cases an improved hygiene may correct the neurosis, and the mental condition improve. Where the neurosis is not thus transitory it may be due to hereditary conditions. In some cases the domestic and the physical condition may overlap. An investigation will reveal a very defective dietary. Food may have been improperly balanced, irregularly taken, poorly selected, cheap, old, decayed. The children have not been taught to eat properly. Perhaps their sleep is irregular and disturbed. This may be true of rich children as well as poor. In a study made in a western city forty per cent of the cases were nervous defectives. Perhaps among physical causes may be mentioned epilepsy, although this is rather a secondary cause. The primary cause would be the condition, hereditary or otherwise, which caused the epileptic condition. The amount of backwardness here will be determined somewhat by the age of the child. One author believes that an epileptic at twelve may get through the grades and even do high school work, but an epileptic at five will probably never get through the grades.

Closely allied to physical causes, and indeed actually such, are *defective sense organs* as a cause for mental retardation. In Germany it was found that in the lower grades twenty-two per cent had defective eyesight, in the upper grades fifty-eight per cent. In the United States defective eyesight affects about

twenty per cent of the school children. Five to six per cent of the children in the United States are defective in hearing. Eye strain and overtaxed attention, due to defective hearing, leads to irritability and consequent mental inability. Out of more than 99,000 children examined in New York City in 1905, eighteen per cent or over 18,000 had enlarged tonsils, and ten per cent had adenoid growths, many of these with accompanying affections of ears, nose and lungs. Gulick and Ayres examined 1,012 atypical children, four-fifths of whom were ten years of age and over. Of these sixty per cent were suffering from malnutrition, seventy-eight per cent from nervous disorders, fifty-six per cent from adenoid growths, sixty per cent from hypertrophied tonsils, sixty-nine per cent from defective vision, thirty per cent from defective hearing and eighty per cent from defective teeth. A majority of these children had numerous defects, and malnutrition was plainly one of the important causes of their mental retardation. In an institution in this city a boy who seemed to all appearances to be a low grade defective was found on examination to have both ear drums pierced and almost unable to hear anything. One cannot be too careful to look after all physical defects in backward and retarded children, for by their removal we may find the cause of the mental condition.

The slowness of mental development may be due to *racial* causes. In a comparison of white and colored children measured by the Binet scale of intelligence, Dr. Josiah Morse of the University of South Carolina finds that in the same course of study and with equally good teachers twenty-nine and four-tenths per cent of the colored children are more than one year "backward" to ten and two-tenths per cent of white children; that sixty-nine and eight-tenths per cent colored children are "satisfactory" to eighty-four and four-tenths white, and but eight-tenths per cent of colored children are more than one year "advanced" as compared with five and three-tenths per cent of white children. However, we are here on debatable ground. The advocates of racial equality will insist that such differences are only apparent and if present are due to unequal opportunity. That given the same opportunity the races will show no inequality. They will say that while it may be true that the brain of the black man is on the average about two ounces



lighter than that of the Caucasian, yet the variation in both races amounts to twenty-five ounces. Also that if the brains of the whites and blacks should be jumbled together no one could distinguish the one from the other by aid of brain weights. Nevertheless, there seems to be an idea prevalent among school men that the negro child develops at the Caucasian rate until the fifth grade is reached, but after that falls behind in the competition of intellects. Cornell states that in his own experience as a teacher in a medical school handling hundreds of medical students, he recalls no negro student who was remarkable and but three or four who were good students. The form board test has been tried on several races and it is said considerable differences appeared. As between Whites, Indians, Eskimos, Ainus, Filipinos and Singhalese, the average differences were small and much overlapping occurred. As between these groups, however, and the Igorot and Negrito from the Philippines and few reputed Pygmies from the Congo the average differences were great and the overlapping small. If the results of these and other tests could be taken at their face value they would indicate differences of intelligence between races. One American official in the Philippines complained that no natives were mentally over 14 years of age. Another stated that the Binet test would put it lower. The school curricula in the Philippines are graded low because the Malay can only go so far and no further. However, the extent to which racial differences are the cause of mental retardation is a subject not yet worked out to satisfactory conclusions. The mental status of those children who are the results of mixed parentage depends largely on the character of the parents. In the words of another, "It would be absurd to expect from the union of a good-for-nothing white man with an equally good-for-nothing black women children that march on the heights of humanity." The Secretary of the recent Universal Races Congress held at the University of London in July, 1911, says: "That if only the environment can be gradually changed, perhaps with sufficient slowness and certainly in the appropriate direction, both the mental and the physical characteristics of the lowest races may ultimately attain those of the highest. If we assume that the white and the negro races owe their respective characters ultimately to environment, there is no *a priori* reason for denying



the possibility of a reversal of their differences if the environment to which they are respectively exposed be gradually in the course of many hundreds of thousands of years reversed."

The causes we have thus far considered are those which may cause mental retardation which may not necessarily be mental defectiveness. When we cross the line of normality and seek the causes of backwardness in those who are on the wrong side of that line, we find that similar causes may lie back of all the varying degrees of mental defectiveness. What causes the low grade idiot may cause the high grade moron. Environment, nutrition, race and physical conditions do not rank here with the same importance as do other causes. However, the causes of mental defect may also cause mental dullness and retardation. There are causes which may be called *post natal*. For instance, there are many dangers which beset the growing child and which may bring about an arrested development. There are the diseases of childhood, such as scarlet fever causing meningitis, or cerebral paralysis, which may leave permanent mental defects. There are possibilities of accidents, such as blows and falls which may injure the brain. Some of these blows may come from brutal parents. A child was struck on its head by its drunken father, a man of enormous strength, with such force that it was thrown clear across a room. The child as it grew was found to be an imbecile, while all the rest of the family were normal. There are dangers of injury to the brain at the *time of birth*. "When one considers that a very difficult labor gives a fair chance of either a dead or feeble-minded infant the great number of the latter is realized. How many of the simply dull and backward school children arise from this cause cannot be determined."

There are causes which may be termed *pre natal*. Indeed, of all the causes which make for mental defectiveness of every kind and degree none is so powerful and prolific as that of a degenerate ancestry. For years the study of the Jukes by Dugdale was the classic proof for this contention. But in these later days we have been overwhelmed by many other studies which have overshadowed the former. The Kallikak family, the Nams, the many studies of individual cases have all given abundant evidence of the descent of degeneracy from generation to generation. The result of these researches as shown

by the diagrams which are now becoming so familiar by their numbers, and by the statistics of feeble-mindedness indicate that two-thirds of the feeble-minded children are children of feeble-minded parents or grandparents or both. Among the unfavorable ancestors should be counted not only those distinctly feeble-minded but also the insane, alcoholic, syphilitic, the prostitute, and criminal. While it may not yet be clear to what extent and how these latter conditions bring about defective mental strain in their offspring yet the defective physique, the unstable nervous equilibrium, the lessened vitality which is the heritage of such offspring make a weakened mental condition possible. Such children are linked to a very unfavorable past. Among them are those of whom we may say with literal truthfulness "They are born tired." They are destined to go through life with an under-stimulated or an over-stimulated nervous system and a consequent physical condition which forecasts nothing hopeful for their own mental life or that of their posterity.

What we have thus far considered may be said almost without exception to be immediate causes. But we have not yet touched the ultimate cause which is essentially a social one. It is this which makes the study of the causes of backwardness of interest and value to us. The biological and psychological factors which enter into the discussion are of interest to us only incidentally. As social workers we are principally concerned with social factors. And it is evident to every student of this question that the principal causes of mental defect of every kind—classing all degrees and kinds together—are principally those arising from defective economic and social conditions. The ideal state or civilization will have a greatly lessened amount if not an almost total elimination of backwardness. To stop this stream of defectives and dullards from clogging up the wheels of our civilization we must do away with the ultimate causes. We must as social workers agitate and strive for cleaner and better environments, for adequate nourishment for all those who are brought into the world, for the elimination of preventive infantile diseases which leave the victim alive physically but helpless mentally, for the development of school curricula which shall meet the needs of the varying mental conditions of all the children of all the people, for the segregation

of those who are unfit to be the progenitors of the men and women of to-morrow. Every dental clinic, every medical inspection of school children, every playground, recreation center and municipal dance hall, every settlement and boys' or girls' club, are each and every one efforts to raise the physical, mental and moral condition of those whose present condition may increase the flood of backward children. Every housing reform, which eliminates darkness and disease from the home, every attempt to check child labor with its consequent physical and mental deterioration, every vocational school which develops the child manually, every attempt at vocational guidance, every attempt to provide nourishing food at breakfast, noon or evening, to impoverished or sickly children, every attempt to properly instill ideas of sex and personal hygiene in the minds of men and women, in short, every social effort which seeks to develop a deeper social consciousness and a broader sense of personal responsibility, is by so much a decided step toward the elimination of the principal or social causes of backwardness in children.

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#### DISCUSSION.

By CLINTON P. McCORD, M. D.,

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To say that a child is mentally backward in school work may be in general equivalent to saying that he has decayed teeth, if we accept a particular study by Dr. Ayres; that he has enlarged cryptic tonsils with absorption of toxins and slow poisoning of the system; that his nasopharynx is stuffed with adenoid tissue that means poor oxygenation of the blood, naso-pharyngeal catarrh and defective hearing; that his eyes photograph and transmit to his brain only one-half or one-tenth of what he should be cognizant of through that sense; that his hearing apparatus collects and transmits to his brain only a part of what yours or mine collects and transmits; that his digestive and assimilative forces find it impossible to provide fit blood to nourish brain cells and cause them to function normally on the quantity or quality of food furnished; that he constantly is absorbing poisons from tuberculous or syphilitic bones or glands or from a malformed, sluggish and clogged intestinal tract.

These are the children who are backward because of disease or physical defect. When the recognition and removal of such defects is followed by improvement in the child's mentality, when the child, who previously was stupid, troublesome or even criminalistic, becomes stu-



dious, obedient and progressive in school work, we may feel that the defect in question perhaps was the cause of his backwardness. Remarkable cases of this kind have been recorded. We have this winter restored a backward child from one of the "special classes" to the regular grades on the strength of marked improvement in school work noted by the teacher following the correction of hyperopic astigmatism. The moral is, that such conditions must be eliminated or corrected in order that our subsequent study of any particular child's backwardness may culminate in a scientific diagnosis. Outside of deafness, which is probably the most serious physical handicap in school work that the child is likely to possess, and the more serious cases of defective vision and poor nutrition, I am inclined to think that physical defects *per se* have less influence on school progress than has been claimed by writers in the popular magazines and even by trained examiners of school children.

The fact that many so-called "environmental cases"—backward children that are said to owe their state to bad home conditions, neglect and lack of opportunity, come to an examiner with a variety of uncorrected physical defects, may give color to such a belief. Personally I feel that the majority of the so-called "environmental cases" will come to be seen in the near future as products primarily of bad heredity and absence of pre-natal hygiene, rather than the result of faulty surroundings. In other words, the so-called slum conditions look very much like *symptoms* of a well-defined basic disorder. They have a biologic rather than an industrial and social cause. Any little village has its slums as truly as do our cities. Clean the slums, clothe the dwellers there and put money in their pockets, and in a year you would return to find the original conditions present. I think this is generally accepted by sociologists today, and as a result the science of medical sociology is being born. We are almost ready to part entirely with the very human but obsolescent sentimental element in social work, and to appreciate the truth that social and industrial conditions have not wholly produced this jetsam and flotsam of humanity and the conditions under which these people exist, but that they have builded their own world according to their native distorted, dwarfed and undeveloped ideals.

Returning to the subject of backwardness resulting from disease or physical defect, we find rather a wide range of figures. Figures here mean little. It is enough to know that the curve of normal distribution as given in Mr. Johnson's paper locates at least 30 per cent. of school children in the backward squad. Of this number some fall under the class we have discussed—those backward by reason of defect or disease and those who are victims of bad home conditions. Others belong to the class that have had a new and difficult language to struggle with, and still others have been so irregular in attendance that little progress has been possible. In these groups, there is much overlapping and combining of causes and the exciting and the contributory causes are often hard to differentiate.

A considerable proportion of the retarded children that clog the



machinery of most city school systems without doubt owe their backwardness to school curricula and teaching methods that are not in accord with the abilities of these children, who usually will be found to be motor minded. Proper child classification should be the first step toward the correction of these conditions.

In a consideration of backwardness in children we must not forget that school work is not always a correct measure of a child's abilities. It is true, however, that children who are dull in the outside world as a rule have been dull in school work. The child must be studied under varying conditions. This brings us to a consideration of the children of this major group whose backwardness is of such a degree or such a character that one familiar with this type of child may make the diagnosis of feeble-mindedness. To the untrained, all these children, except the most openly peculiar, are referred to as "backward" or "subnormal." As Mr. Johnson has said, the term "backward" is scientifically applied only to children who with certain physical, educational, racial or environmental handicaps removed, attain to fairly normal standards of intelligence, progress and behavior, and may eventually become self-supporting, respectable citizens. The remainder of these so-called backward cases constitutes the group of children properly called the feeble-minded. Their mental condition is incurable. They are not able to do regular school work to any purpose and they will never become useful nor safe, self-directing citizens. About two per cent. of school children fall under this head. The best treatment for most of them, in the public schools at present, is that given in the "special classes," where specially fitted teachers train them chiefly along manual lines. These children in the regular grades are usually neglected or punished instead of being studied. Educators and teachers in the past have thought of truancy and incorrigibility as things to be dealt with as definite pedagogical entities, whereas they are usually but a couple of *symptoms* of a very significant and menacing pathologic condition. The child's incorrigibility is based on reasons beyond his control under the usual conditions. The first step toward dealing with these children is to classify them and then train them in accordance with their abilities. The greatest good that results from this step is that accruing to the seventy per cent. to eighty per cent. of average, normal children, because of improved conditions and methods developed through a recognition of the needs of unusual children. The teacher, for instance, of the backward child, will almost surely point the way to a newer and better pedagogy for teachers of normal children. The classification of these children is work for experts, since some high grade feeble-minded children *appear* to their teachers and others far brighter than many children that are merely backward from physical defect or bad environment. The practical point here lies in the fact that while the latter condition is curable and the children harmless the feeble-mind is incurable, and these children that will soon have the bodies of men and women but will ever remain children in intelligence are a social menace.

Over sixty per cent. of these cases of feeble mind are hereditary, and it is the control of this tainted stream of life that must concern in considerable measure the trained social workers of the next thirty years. The science of medical sociology is being born, and the social worker who directs his or her energies along the lines of greatest service will find a definite share of the work awaiting development.

I was glad that Mr. Johnson did not stop with his enumeration of the causes of mental retardation in children. He spoke of the futility of a knowledge of these conditions without the response of time and money and service in an attempt at correction and prevention.

I only epitomize his thought when I say in dealing with the problem of the backward child, whether he be in school, on the street, or before the juvenile court, the first step toward dealing with him humanely and practically is scientific child classification. With his status scientifically determined and established, educational, social, judicial, philanthropic and public health agencies may well unite in giving him the care, protection and treatment that are proper for his needs and are commensurate with his abilities. Thus will the individual be best served and society best conserved.

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## THE DETERMINATION OF MENTAL DEFECT.

By CHARLES BERNSTEIN, M. D.,

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The determination of the existence of mental defect as treated in this paper has special reference to juvenile mental defect, or as it is commonly and almost universally designated feeble-mindedness.

The comprehensiveness of the term "feeble-minded" has vastly changed during the last decade. Thus during the latter part of the last century idiocy and imbecility were the specific words designating mental defect in childhood; feeble-mindedness, epilepsy and insanity occurring in children were scarcely suggestive of mental defect and persistent and repeated delinquency and backwardness in school were in no way associated with, or suggestive of, diseased or abnormal brain or lack of mental capacity.

The many special studies made of child growth and development during the past twenty years has given us a working basis as to what constitutes average or normal conditions of physical and mental childhood for various given ages, and what variations therefrom may exist and still the child grow into a

reasonably normal adult, capable of self-support and protection and amenable to the rules, regulations and established customs of organized society.

The idiot and the imbecile classes are easily recognized as mentally enfeebled and no special diagnostic skill is required to determine these conditions, especially as in nearly all of these cases we recognize a defect of body as well as of mind, and because of the associated defect of body and mind no one except the physician or surgeon or experimental aptitude questions the existence of organic mental defect. Various experimental work in medicine and surgery has been done to remedy defective or abnormal bodily states in idiots and imbeciles with the hope that normal physiological function or activity would result, and thus the brain and mind develop normally. However, all these lines of work have proven futile as regards cure, although very considerable improvement has resulted in many cases.

Formerly we felt convinced that all feeble-minded children with localized physical defects could be set aside as a special class, all of whom would be cured of their peculiarities as soon as their various physical defects were corrected. This we have found, as a result of further studies, is not true, and that even many of our so-called borderline cases are not made mentally normal with the removal or cure of the physical defect, such as the removal of adenoids, enlarged tonsils, circumcision, craniectomies, correction of faulty vision, defective hearing, etc.

Modern study and laboratory work in physiology and psychology, in which we no longer express ourselves in terms of function and faculty especially in relation to the brain and nervous system, has led us to think in terms of action, reaction and inhibition and the application of such methods to the study and analyses of the physical and mental condition of the inmates of our institutions for the mental defective and the delinquent classes, and especially their application to the backward children in the public schools, and the children appearing in the juvenile courts, has given us much insight into the underlying principles and characteristic symptoms of juvenile deficiency and mental defect, as a result of which there is little hesitancy on the part of many to, in an off-hand or casual manner, pronounce almost any child presenting physical, mental or nervous peculiarity,



mentally defective, and thus in many instances unjustly stigmatize and even blight the whole future life of the child, and while one need but watch for a short time the activities of groups of children such as are thrown together in our various educational systems, to be able to designate those who because of their peculiar activities proclaim themselves as markedly differing from the great majority, still a little further study and analysis of these assorted cases should convince one that each of these children should receive more careful and many of them somewhat prolonged and continuous observation and study before they are thus characterized. After having excluded and properly treated the anaemic and under-nourished cases as well as those due to active physical disease, we will find among the remaining picked cases,—first, a few who are over-active both physically and mentally, the cases partaking of the nature of juvenile insanity; second, another class constituting a large proportion of all who are peculiarly nervous presenting about a normal mentality, the cases who will later contribute to the large number of neurasthenias and hysterias; third, a larger number who are dull mentally and extremely inactive physically, the large body of the feeble-minded and ne'er-do-wells; and fourth, yet another class of considerable proportions who are about normally active both physically and mentally, but who show perverted activity in special lines of endeavor in that they are especially stubborn, quarrelsome, pilfering, unobserving of the social rights of others, etc., who will later help to swell the numbers of the delinquent and the criminal classes.

The sure determination of the presence or absence of permanent mental defect in the borderline cases is the special object of much of the research work carried on at present in our schools, in the various reformatories and homes for children and in our most humane juvenile courts. However, in the two larger of these agencies, namely the schools and the courts, as at present organized and managed the work cannot be systematically or scientifically carried out because of the short or interrupted periods during which the case may be kept under observation, and also the daily repetition of adverse environmental factors of longer daily duration than the daily period of observation.

We all recognize that entrance to school which is compulsory is the first opportunity presented to society as at present organ-



ized to detect the mentally defective of the higher grades, although we could well wish that our organizations were such that for the benefit of the family as well as the child and also society in general, that such a system of home and family medical inspection existed that there could be no chance for a defective child to unduly burden a family, nor on the other hand for a defective family to unduly burden a child, and that the prospective defective child might be found sufficiently early so that all possible adverse environmental factors could be corrected or removed from the child's life.

The peculiar or backward child having been singled out in the school and our present system of school medical inspection in New York State having exhausted its resources to correct disease conditions and physical defects, and our all too few special classes having been increased in numbers to fully meet the need, and such special classes having specialized on the case, all of which should be accomplished in one school year, and yet failing to restore the child to normal activity, the next step should be to place the child in the child study laboratory or clearing house where the child could be taken for indefinite residence for observation and study, thus giving the child the one last chance in the hands of the best available specialists before he or she is stigmatized as an *it*.

These special child study clearing houses or laboratories should be established in all cities of the first and second class, preferably so far as possible in connection with existing children's hospitals or special clinics for nervous and mental diseases, where uninterrupted residence, care and treatment should be demanded until final decision is reached and diagnosis established.

Orphan asylums might well be called upon, until better clearing houses are available to assist us in this work; that is, place the doubtful child in the home among the normal orphan children and there study the child's activity under good conditions of discipline, hygiene and nutrition. Here removed from the irritating and depressing conditions under which he has almost surely existed, we may observe the child's activities in reaction to normal environmental factors.

I have purposely refrained from dwelling on the feeble-minded among the juvenile court cases because I believe there will be comparatively few such feeble-minded delinquencies when the

teachers in our public schools have learned to recognize the activities and traits of character which more or less surely point to mental deficiency and delinquency, and thus these special cases taken in hand before the age of delinquency.

Dr. Goddard has pointed out to us that nine years seems to be the age when delinquency begins to manifest itself in the character of the child, and that even in the feeble-minded who are much retarded in mental development, the traits of delinquency do not assert themselves until the child reaches a mental age of nine years, even though he be well along in his 'teens in physical or chronological age. "This," says Dr. Goddard, "certainly points to the fact that there is a peculiar period in the child's life at about nine years of age. It has been suggested that the impulses which lead the child into activities that result in misdemeanors ripen at about the age of nine, and that his power of control has not yet developed, so that if his arrest of development occurs at that time, the conditions are most favorable for his being a criminal. If his arrest in development comes earlier than that, he is not criminally inclined, because his impulses thereto have not shown themselves. On the other hand, if his arrest of development comes later than that, he may not be a criminal because he has enough power of control to restrain himself." While these cases (which are known as morons) are the most dangerous and the hardest of the mentally deficient to detect as incapable of judgment and control, still I believe many of these defectives may be detected as criminalistic if carefully watched for and studied in the public schools at about this age.

I have suggested the importance of watching for these peculiar children in the public schools, and it is with this in mind that we have inaugurated at Rome a special summer school for teachers, thus giving as many teachers as possible opportunity to live for four weeks in an institution associated with a large number of feeble-minded of all grades and conditions so that the teacher may come to know them at first hand and thus the more readily recognize evidences of feeble-mindedness in the children in their classes in the schools at the earliest date possible.

## DISCUSSION

BY MISS MARION COLLINS.

MISS MARION COLLINS: Dr. Bernstein has outlined a plan for the comprehensive study of borderline cases of mental defect as they first appear in the public schools. He has shown that the first step in this direction is the continuation and development of the special classes, which should make the first study of the subnormal child and do all that is possible in the way of removing adverse environmental and physical causes. Then after a year's work of the special classes, if the case is still doubtful, prolonged study and trial in special laboratories or clearing houses, located in the first and second class cities of the State, should be made, in order that every opportunity for improvement may be given the child before it is finally judged a subject for custodial care.

The possibility of saving to society the victims of bad environment, vicious training and anti-social habits is a sufficient reason for the consideration of the plan. Furthermore, Dr. Bernstein has shown that such a plan would mean the early diagnosis and care of those children who would, if left to themselves, join the ranks of the delinquent classes. The result would be the lessening of cases for the juvenile courts, reformatories and prisons and leave them free to do constructive work with normal persons. The definite diagnosis and prognosis which might be expected from the extended laboratory studies could be the basis for permanent court commitments and thus solve one other problem which now presents itself in dealing with defectives who need permanent custodial care. These clearing houses would have an excellent opportunity to become the centers of information in regard to mental defect and to contribute largely to the studies which are but in their infancy. The institutions of the State would benefit immediately from the plan, for the studies of family history, personal history, and capabilities of each one would already have been made and the institution would know where to begin in its treatment of the cases. Perhaps more important than this would be the better distribution of cases among the State institutions, so that each one would receive only those types of cases for which it is planned, and might specialize along its own particular lines.

In comparison to such a plan, the present methods of diagnosis and disposition of cases appear inadequate. Not until some immediate action is necessary does the subnormal child come to the attention of the Poor Law officials. The case is often handled by the social worker who is forced to make a tentative diagnosis of feeble-mindedness after the usual methods of dealing with the child have failed. Her opinion is confirmed by the physician from an office acquaintance of, perhaps, half an hour, who bases his decision largely upon the past behavior of the child as related to him by the social worker. In places where there is no social worker, or special classes to make the first studies of the child, the method of diagnosis is still more indefinite. It can hardly be expected that the Poor Law officers shall be experts in abnormal psychology.

When the decision of feeble-mindedness has finally been made, admission for the case is sought at the institution where acceptance seems most probable. As the institutions have only the brief application blanks from which to judge the merits of the cases, there is a resulting lack of classification of the cases in the State institutions. Pending admission to an institution, some provision must be made for the care of the child, which often proves a difficult problem, since the defective child is not welcomed at most of the orphan asylums and the almshouses which may be utilized for persons over sixteen years of age, lack facilities for holding unwilling inmates.

For the abnormal cases which Dr. Bernstein has mentioned, the over-active and the anti-social, no suitable provision has been made in the State because their existence has not been generally recognized, although they present one of the most difficult of the problems of the borderline cases. They are for the most part children who can be useful under careful supervision, but are unable to conform to the laws of society. The custodial asylums, planned and equipped for the typical feeble-minded cases, have not the facilities for caring for these cases, and those who by reason of urgent need of permanent care are finally sent to the custodial asylums as the only available places, are a constant source of disturbance because they are misfits. If, on the other hand, these cases are not cared for until they come into conflict with the law, they are sent to the reformatories where they are unable to benefit by the training devised for normal minds. With effective machinery for the classification and distribution of cases, these might all be gathered into one institution especially planned for their care.

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## DISCUSSION.

By Miss ELIZABETH FARRELL.

Miss ELIZABETH FARRELL, Inspector of Ungraded Classes, Department of Education, New York City: Mr. Chairman, Ladies and Gentlemen: I propose to organize under three headings what I have to say on the subject of the Treatment of Backward and Defective Children.

First, Who are the backward and defective children? second, Why shall we care for them? and third, How may it best be done?

In New York City we have been for years on this problem of backward and defective children until to-day we have about three thousand children in special classes and many, many others waiting for the opportunity that the special class offers.

A great many, the vast majority of all these children were pupils in the public schools of the city. They were scattered in the different grades of the elementary school from the kindergarten up through the fifth and sixth grades. A few of these children have been brought in by the permanent school census officer, who found them in his travels looking for children who are illegally detained from school. Because we are interested in children and in their best care, we have



taken into the school and into these special classes the children found by the census officer illegally detained at home because of supposed mental defect. Very many of these children are mentally defective and are easily recognizable as very backward children: some are so backward that the school cannot care for them,—there is no provision outside of an institution, which deals adequately with their needs,—but a large number could with safety to themselves and without serious detriment to others attend the special classes. These children we have taken in.

The children attending school and found to be seriously backward and in need of special care brings me to the first point,—Who are these children? How are they selected? Those children who present one or more of a number of idiosyncrasies are suspects. One type is the incorrigible boy or girl, the child who would not make the usual or the necessary ethical and social adaptations to the school environment; another is the truant, who could not be interested in school work. Another is the child apparently unable to learn to read, even though, he regularly attends school. The nervous, the neurotic, the psychopathic child is another type of suspect. The child who is obviously defective, the one in whom is seen the physical stigmata of degeneration must be added to this group. From these various and more or less obvious types, the children who finally find their haven in special classes are selected.

The final selection of children for special class work is along very definite and decided lines. It is not left to the school principal. This obligation is put upon properly constituted officials. The procedure in the courts of this State has been followed in this regard. No person other than a physician has any standing in court on the question of mental disease or mental defectiveness. For this reason in New York City we have a staff of physicians devoting their whole time to the examination of these backward and defective children. In addition to this regular staff, there are social workers who go into the homes and investigate the home condition and probable heredity of the children. Associated in an advisory capacity is a board, a council, composed of physicians, sociologists, psychologists.

These children are selected in the first place by the school principal. They then pass in review before properly constituted authorities trained in the matter of diagnosing mental defect. Upon that decision they are put into the special classes. The children found by the census officers are also put in the special classes after the examination and investigation by the physician, psychologist and the social worker. This examination is considered most essential in the training and treatment of backward children. They present all sorts of anomalies of development, all kinds of deficiency and disease. It is only by classifying children on the basis of what they themselves present, can we initiate an intelligent method, an intelligent procedure for their ultimate cure

if it is possible, or their ultimate care,—custodial or institutional,—if it is shown to be what is needed.

The backward child is the child at the low end of the mental scale, the child whose endowment is less than the average. Wherever that less endowment is found the demand for special care and treatment is imperative. It must eventually be listened to, the cry of these children must be heard by all school administrators. The backward and defective children are those who fall below. Just as we have infinite gradations of normal mental life, so we have infinite gradations of mental deficiency, from those just below normal to the lowest end of the scale. There is no known point at which normality ends and deficiency begins.

If there are backward and defective children, they must be cared for. No one questions this. How shall they be cared for is the pertinent question.

We provide and must provide for these children because it is their right to be provided for. There is much talk, much hysteria about the menace of the defective; but I would ask a body of charity workers, a body of men and women whose work is given to the uplift of less fortunate ones, to consider why we care for them, from the standpoint of the children themselves. We care for them because it is their right to be cared for; they are unable to care for themselves. We should care for them because they are children, and as such need the help and the wisdom and the knowledge of men and women. There is the other reason,—they are a menace. I ask you to consider in this whole problem the relative value of love and fear as a motive for action. Shall we do a thing because we are afraid of it? Shall I serve because I fear, or shall I serve because I love to serve? There are ethical values we cannot afford to neglect; there is a motive running all through, that we will do well to heed. By treating the defective and the deficient child because he is a menace, may we not pay too much for the thing we get? In the loss of human sympathy may not the price we pay be as great as the ill we seek to cure? There are these two motives for action, there are these two things between which to choose. Shall we in fear seek to blot out what seems to threaten as a menace to the race? Or will we provide for the backward and defective children because it is their earnest and their sincere and their inherent right?

How shall we provide is the next question. Mr. Heberd indicated in his paper, the accommodation in this State for those people of feeble minds or with mental deficiency is very inadequate. Coming as I do face to face with the problems of these boys and girls who are adolescent and whom we cannot adequately care for, the question has come to me with great strength lately. Why cannot there be a method of selection in sending these individuals to the State institutions? Why cannot the all too few beds in the State institutions be saved for those whose need is greatest, presumably the adolescent boy or girl, the adolescent children unable to direct themselves? Why shall not these beds, maintained at a great cost, be occupied by those persons who

need them *most*, rather than by those children who may not need them as much? It is not an axiom to say that young children are never to go to the institution. There are many homes in which these children live where the regular orderliness is greatly interfered with by their presence. There are homes where the mother has to become a wage earner and with a mentally deficient child in her home, she is unable to attend to the matter of self-support. Situations of one kind or another make it imperative to send a young child to an institution. On the other hand, there are hundreds of cases where the defective child is just as well off at home, and if such were kept there, many adolescent boys and girls could be cared for in the institutions.

Is it not essential to establish some principle of selection upon which the precious beds in the State institutions are to be filled? The present practice promotes the condition of children coming to and going from the institutions. The population in our institutions is constantly shifting. It is always changing. This is an expensive method of care. A principle of selection would insure economy. Economy in administration, consecutiveness in training which means opportunity for habit formation, which in turn means efficiency and smoothness in the every day life of the institution. It is only after long and patient effort that the child can be improved. To have the opportunity in a special class, and then be sent to the institution, from which he is withdrawn in a few weeks, then a sojourn on the street and back again into the special class makes a vicious circle from which all the agencies concerned suffer and the child most of all. A little child may be a menace, he may interfere with his brothers and sisters. If so, he should be sent to an institution. But there are hundreds of little children now in institutions who could live in their homes and could be adequately cared for.

Many of you are saying, then you will take into these classes all the children with mental defect without regard to the degree of that defect. The answer is yes until something better is provided. The work of the public school and the training which the public school can best give is for children who are not imbeciles or idiotic, but at present with not enough beds to harbor those whose parents ask for help, the school is helpless in the matter. The choice with the school is never, shall we keep this boy out of an institution. The question always is, can we get him into an institution. The public school is the place for the borderline case who may or may not be defective, the boy or girl who must go into the world to work and earn a living. These we can train. When it is apparent that institution care is necessary, why may not the child be transferred?

The special class in the public school should be the training ground for the institution. The activities in the special classes should be those superintendents of custodial homes know will train children for institutional life. Special classes must train so not one step will be lost in the transfer from school to institution. There should be an interlocking of activity, as there is of motive. Special classes should be the



training ground. Special classes should bring grist to the institution mill. This is the function of the school as far as the feeble-minded are concerned; this is the thing the school ought to do; this is the thing that will be done some day when we learn as much about efficient methods as applied to public education and management of institutions as are now applied to business enterprise. These young children left in the homes because the institutional provision is needed more desperately by others are not to be denied formal training. Motor work, both manual and physical, sense training and the development of rhythmic response are necessary. Their physical condition, if possible, must be improved in some such way as would meet the demands of institutional life. They should be trained for their place in the institution rather than the work they never have a chance to do in the world. This whole problem of the care and treatment of backward and defective children is a unit. It is divided at present between workers in different fields, but the school, which is the moulding ground in this country, at least, of all child life, stands ready to offer which co-operation it can. It stands ready, until better ways are found, to train for institutional life those children who in the nature of things will need it.

May it not be possible some day to have the institution stand to the defective child in some such relation as the high school stands to-day to the normal child. Is it not possible for the school to do the preparatory work and then to graduate, to pass on, to the institution, the child it has learned to know and understand and, perhaps, fortunate enough to improve somewhat during his school life? Why not look upon the institution as the high school for these children, as the place of advanced training. The word high school is perhaps unfortunate in its connotation. Its relative place in public education is the idea to be grasped. A broad view of the ultimate solution of this problem of mental defect must be held. The school is the sifting ground of all child life. As it points some toward commercial training, some toward vocational training, others toward the classical high school, and others toward the high school of manual arts, may the school of some day not point these wrecks of humanity, the defective children, to their larger opportunity, their field of achievement the institution, which will also be their home in which they will live and have their being and make their humble contribution to the progress of the race?

There are defective children and they are in every school. We must care for them. This care must be given with love and reverence for human life, even defective human life. The care and treatment of backward and defective children is a unit now divided among workers in different fields. It is the business of such workers to apply to their particular field of effort all that makes for economy and efficiency in order to hasten the day which will see the vast army of the unfit greatly decimated if not entirely eliminated.



## Editorial

Entered softly an imposing figure; an old gentleman in a long sober gown trimmed with rich fur, cherry-coloured hose, and pointed shoes, with a sword by his side in a morocco scabbard, a ruff round his neck not only starched severely, but treacherously stiffened in furrows by rebatoes, or a little hidden framework of wood; and on his head a four-cornered cap with a fur border; on his chin and bosom a majestic white beard. Gerard was in no doubt as to the vocation of his visitor, for, the sword excepted, this was familiar to him as the full dress of a physician. Moreover, a boy followed at his heels with a basket, where phials, lint, and surgical tools rather courted than shunned observation. The old gentleman came softly to the beside, and said mildly and *sotto voce*, "How is't with thee, my son?"

Gerard answered gratefully that his wound gave him little pain now; but his throat was parched, and his head heavy.

"A wound! they told me not of that. Let me see it. Ay, ay, a good clean bite. The mastiff had sound teeth that took this out, I warrant me;" and the good doctor's sympathy seemed to run off to the quadruped he had conjured, his jackal.

"This must be cauterized forthwith, or we shall have you starting back from water, and turning somersaults in bed under our hands. 'Tis the year for raving curs, and one hath done your business; but we will baffle him yet. Urchin, go heat thine iron."

*The Cloister and the Hearth.*

CHARLES READE.



**The Problem  
of the  
Midwife.**

"So far as we are able to learn, the United States of America is the only civilized country in the world in which the life and health and future well-being of mothers and infants are not safeguarded so far as possible by statutory requirements for at least the training and license of midwives." The quotation is from the recent report of the State Society for the Prevention of Blindness upon the "Working of the English Midwives Act of 1902;" it summarizes the status of the midwife in this country.

Obviously, the fuller possibilities of prevention of ophthalmia

neonatorum and of decreased infant mortality are to be realized only as midwife practice is raised to a higher plane. Selection of the English Act was made, after study of like legislation of various countries of continental Europe, because the problems presented in England are not unlike our own and the provisions of the Act were thought adequate to our needs.

Under the English act, a Central Board prescribes the minimum training for license and definite rules for and restrictions to practice; it provides for constant supervision and inspection. By the same board, license is regularly renewed, and revoked. In general, the working of the law has been satisfactory, as improved infant morbidity and mortality attest. A particularly satisfactory result (and a significant one in the light of future possibilities) has been the attraction of a generally more intelligent class of women to license.

In this country, no state has as yet what can be termed adequate legislation providing for license, inspection and supervision, and revocation of license. Progress, however, has been made in certain localities and the satisfactory working of the more recent Midwife Practice Act of New York City is proof that midwife legislation is not only practical but, with no insurmountable difficulty, can be carried into effect even in the most cosmopolitan center of our continent.

In simple terms, the problem of the midwife is the problem of better obstetrical service to the poor; the services of the midwife are rendered during pregnancy, labor and the puerperium and, almost without exception, to the poor both native and foreign-born. Tradition, economic consideration and satisfaction with her services are advanced as reasons and excuses for her existence. Certainly, until a satisfactory substitute for the service rendered is found, the midwife must be acknowledged a present-day necessity. The imperative need of raising the standard of her work is admitted.

The effect the proposed demand for increased efficiency will have upon the major problem of improved obstetrical service to the poor is problematical. Can the superior woman who already has been attracted to the service by added requirements be expected to work for the ridiculously low fee which, without doubt, has been and will continue to be the essential consideration where midwife practice is concerned? Is it not possible that many

better qualified, even if not actually superior, women who might be attracted to the service will refuse because of its association with a title that, for time out of mind, has been associated with ignorance and superstition, with too much that was bad and too little that had actual worth? The question is of definite importance when the opportunities offered the intelligent, trained nurse in district and social service are concerned.

Other practical questions suggest themselves. The midwife is to be charged with more than the conduct of normal pregnancy, labor and the puerperium; she must discover and report the abnormal. Conservative estimate places the percentage of cases presenting abnormalities associated with actual child-bearing at 20. Here, can the services of the midwife, even when institutionally trained for a period of six months, be claimed superior to those that could be rendered by a hospital graduate, of higher preliminary attainments, who has been schooled for three years in practical and theoretical medicine, surgery and the specialities, and whose training has been rounded out by three or four months of adequate obstetrical teaching? Has district nursing intelligently administered yet failed either to supply the demand for adequate care for or to improve the quality of medical service rendered to the poor? Has the question of cost to the individual or to society ever been raised against it? Is it not a possible solution of the problem confronting us?

But the problem of better obstetrical care for the poor is larger than that of the midwife. With the standards of midwife practice raised or a substitute for her services discovered, there still remains a demand for increased efficiency in the obstetrical service rendered by the physician. Recent investigations by the Bureau of Health of New York City reveal the surprising fact that "while approximately forty per cent. of the births were reported by midwives, only twenty-two per cent. of the deaths from puerperal septicaemia can be charged to their account, while physicians reported approximately sixty per cent. of the births and were in attendance at the time of confinement in the case of sixty-nine per cent. of the women who died from puerperal septicaemia." At least as far as puerperal infection is concerned, are we to conclude that the midwife is safer than many of the physicians the pregnant woman might voluntarily or, because of abnormalities discovered, be compelled to employ?

Obviously, the problem of better obstetrical service to the poor is many-sided. It will be solved; for efficiency is the order of the day. The service will be rendered; whether by "midwife" or an agent yet unnamed, whether by nurse or physician is immaterial. The necessity for midwife regulation is pressing. To the movement the physician should lend immediate and active support.

## Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

### ABSTRACT OF VITAL STATISTICS, FEBRUARY, 1914.

#### *Deaths.*

Consumption .....	17
Typhoid fever .....	2
Scarlet fever .....	0
Measles .....	1
Whooping-cough .....	1
Diphtheria and croup .....	0
Grippe .....	3
Diarrheal diseases .....	3
Pneumonia .....	15
Broncho-pneumonia .....	1
Bright's disease .....	11
Apoplexy .....	9
Cancer .....	13
Accidents and violence.....	9
Deaths under 1 year.....	26
Deaths over 70 years.....	34
Total deaths .....	174
Death rate .....	22.67
Death rate less non-residents.....	20.45

#### *Deaths in Institutions.*

	Resident.	Non-Resident
Albany Hospital .....	14	9
Child's Hospital .....	0	1
County House .....	4	0
Homeopathic Hospital .....	8	0
Hospital for Incurables.....	0	0



Home for the Friendless.....	1	0
Little Sisters of the Poor.....	1	0
Public places .....	3	1
St. Margaret's House.....	2	1
St. Peter's Hospital.....	12	1
Austin Maternity Hospital.....	2	0
Albany Hospital, Tuberculosis Pavilion.....	1	3
	<hr/>	<hr/>
	48	16

Births .....	119
Still births .....	9
Premature births .....	0

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive .....	18
Negative .....	38

Total .....	56
Living cases on record February 1, 1914.....	330

## Cases reported:

By card .....	34
Dead cases by certificate.....	4
	<hr/>
	38

Total .....	368
Dead cases previously reported.....	13
Dead cases not previously reported.....	4
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	17

Living cases on record March 1, 1914.....	351
Total tuberculosis death certificates filed during February.....	17

## Out of town cases dying in Albany:

Albany Hospital Camp.....	4
St. Margaret's House .....	1
	<hr/>
	5

City tuberculosis deaths.....	12
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*Report of Visiting Tuberculosis Nurse.*

Old cases .....	9
Number of new cases.....	10
Cases returned from hospitals.....	5

## Disposition of old and new cases:

Died .....	4
Sent to hospitals.....	9
To Denver, Colo.....	1
To General Tuberculosis Nurse.....	4
Remaining under treatment .....	11
	<hr/>
	29
Visits made .....	69

## BUREAU OF CONTAGIOUS DISEASES.

*Cases Reported.*

Typhoid fever .....	10
Scarlet fever .....	7
Diphtheria and croup .....	15
Chickenpox .....	18
Smallpox .....	0
Measles .....	5
Whooping-cough .....	1
Consumption .....	42
	<hr/>
Total .....	98

*Contagious Disease in Relation to Public Schools.*

	Reported D.	S.F.
Public School No. 12.....	4	....
Public School No. 21.....	1	....
St. Patrick's Institute.....	1	1
Miss Quinn's School.....	1	....
Number of days quarantine for diphtheria:		
Longest..... 16    Shortest..... 6    Average.....	11	3/5
Number of days' quarantine for scarlet fever:		
Longest..... 32    Shortest..... 16    Average.....	25	1/3
Fumigations:		
Houses..... 35    Rooms.....	115	
Cases of diphtheria reported.....	10	
Cases of diphtheria in which antitoxin was used.....	10	
Cases in which antitoxin was not used.....	0	
Deaths after use of antitoxin.....	0	

## BUREAU OF MARKETS AND MILK.

Public market inspections.....	6
Market inspections .....	119
Packing house inspections.....	1
Rendering plant inspections.....	1
Slaughter house inspections.....	1

Fish market inspections.....	2
Hide house inspections.....	1
Milk depots inspected.....	17
Milk depots deficient.....	3
Milk wagons inspected.....	33
Milk cans inspected.....	61
Milk cans unclean.....	6
Dairies inspected .....	2
Stores inspected .....	75
Stores deficient .....	8
Special market inspections.....	75
Markets deficient .....	5
Meat condemned, veal, pounds.....	120
Lactometer tests .....	27
Temperature tests .....	27
Fat tests .....	27
Fat tests below standard.....	6
Sediment tests .....	20
Sediment found .....	8
Chemical tests (negative).....	9
Cream tests .....	1

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive. . . . .	23
Initial negative. . . . .	238
Release positive .....	9
Release negative .....	52
Failed. . . . .	5
Total. . . . .	327

*Test of Sputum for Tuberculosis.*

Initial positive. . . . .	18
Initial negative. . . . .	46
Failed. . . . .	1
Total. . . . .	65

## BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections. . . . .	118
Old houses .....	28
New houses .....	90
Iron drains .....	56
Connection street sewers.....	14
Tile drains .....	19
Cesspools. . . . .	63

Wash basins .....	115
Sinks. . . . .	93
Bath tubs .....	83
Washtrays. . . . .	72
Tank closets .....	133
Slop hoppers .....	3
Permits issued .....	46
Plumbing. . . . .	43
Building. . . . .	3
Plans submitted .....	23
Old buildings .....	16
New buildings .....	7
Houses tested .....	40
Water tests .....	37
Peppermint. . . . .	3
Houses examined .....	32
Re-examined. . . . .	34
Valid. . . . .	25
Without cause .....	7

#### MISCELLANEOUS

Work certificates issued to children.....	10
Number of written complaints of nuisances.....	90
Privy vaults .....	45
Closets. . . . .	9
Plumbing. . . . .	17
Other miscellaneous complaints.....	19
Cases assigned to health physicians.....	110
Calls made .....	195

## Society Proceedings

### MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

#### MEMORIAL MEETING—J. L. ARCHAMBAULT, M. D.

Special meeting of the Albany County Medical Society held on the evening of October 22, 1913, at the City Hall, Cohoes, N. Y., for the purpose of taking action on the death of Dr. J. L. Archambault.

Members present: Doctors Archibold, F. C. Curtis, Daunais, Gutmann, Hun, Jenkins, Lanahan, MacFarlane, Mosher, J. H. Mitchell, Mitchell, Jr., Murray, Mott, O'Brien, O'Leary, Papen, Jr., Witbeck.

Meeting called to order at 9.15 P. M. by President Rooney.

The president read letters from Dr. S. B. Ward and Dr. W. G. Tucker.

Dr. CURTIS read a letter from Dr. A. Vander Veer; also resolutions adopted by the committee.

Among the speakers were Drs. Adey, Daunais, Hun, Jenkins, Lanahan, MacFarlane, J. H. Mitchell.



A motion was regularly made and seconded by Dr. Lanahan that the resolutions as read by Dr. Curtis be inscribed on the minutes and sent to the family.

Meeting adjourned at 10.

F. C. CONWAY, *Secretary*.

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October 22, 1913.

Dr. JAMES F. ROONEY, *President, Medical Society of the County of Albany*:

My dear Doctor.—I very much regret that it will be impossible for me to attend the special meeting of the County Society to be held in Cohoes this evening for the purpose of taking action on the death of our esteemed colleague, Dr. J. L. Archambault.

As a member of the committee which you have appointed to prepare a memorial for our minutes, it would have afforded me much satisfaction to have been present at this meeting and testified by my presence, and also in words, to my affectionate regard for the member whose loss we all sincerely mourn, and my great admiration of his amiable character, engaging personality and distinguished ability.

It had been my pleasure and privilege to know Dr. Archambault for many years and, in common with a host of others who knew him, I appreciated his gentle nature, modesty, unfailing courtesy, rare ability, and those many qualities of mind and heart which combined to make him the leader that he was and to entitle him to the high place which he occupied in the opinion of his professional brethren and his fellow citizens. This opinion found expression on Monday last, when so large a number of his friends thronged the church at his funeral, testifying by their presence to the great sense of loss which they felt. And this feeling will find expression in many ways and it is right and proper that the members of our society, of which he was for many years an honored member, should place on record their sense of admiration of his character, appreciation of his many excellences, and their feeling of sorrow that they will see his face no more.

Yours sincerely,

WILLIS G. TUCKER.

October 22, 1913.

Dr. JAMES F. ROONEY, *President, Albany County Medical Society*:

My dear Doctor.—I am very sorry not to be able to attend the meeting of the Society to-night, but circumstances render it impossible.

I am writing because I wish to go on record as joining in the universal expression of feelings of regret at the death of Dr. Archambault. He was a man who commanded the respect of all who knew him on account of his professional attainments, his exceptional character, and his uniformly courteous treatment of all with whom he came in contact, whether socially or in the line of duty. He was serious when occasion demanded; yet his sense of humor saved him

from being portentously solemn and pessimistic, and he endeared himself to all who came to know him well.

A refined, cultivated, typical Christian gentleman has passed away and we desire to express to his family and the public our sense of a great loss, no less personal than professional.

Very truly yours,

SAM'L B. WARD.

Dr. HUN said:

Mr. President—I desire to express my respect for the memory of Dr. Joseph L. Archambault and my grief at his death. He was a man of such rare and charming personality that to meet him was a delight and I am sure that everyone who knew him feels a keen personal loss in his death. He may be said to have consecrated himself to the medical profession. Though always ready to stand up boldly for what he believed to be right, he wasted little time and energy in the minor details of politics, whether medical or civic. He devoted himself to his patients. He took a pronounced personal interest in them, which knew no limit in its self-sacrifice and he was both their doctor and their devoted friend. He did not work for their money but he worked to cure them. He did not consider his interests, but theirs; a line of conduct not altogether common in this day and generation. When I had the good fortune to see a case with him, I was always surprised to see the accurate report of it, which he had prepared. A report which made evident not alone his great natural ability, but also his keen powers of observation and his knowledge of the latest advances in medical science. All this was presented with a simple modesty and an eager, genial courtesy to the opinions of his fellow consultant which made the consultation a charming and ever to be pleasantly remembered event. Dr. Archambault was not favorably situated to be a voluminous contributor to medical literature, but it is surprising how much he was able to write and how much of worth he was able to teach his fellow practitioners. To me he seemed to be an ideal practitioner of medicine and I am rejoiced that, whether by heredity or by inspiration, he was able to transmit so much of his spirit to my friend, his son. Toward the end of his life; for in spite of his youthful appearance, his overflowing enthusiasm and his activity he lived the allotted span of human life, I think may truly be said of him the words of Oliver Wendell Holmes:

“So gently blending courtesy and art  
That wisdom’s lips seemed borrowing friendship’s heart.  
Taught by the sorrows that his age had known  
In other’s trials to forget his own,  
As hour by hour his lengthened day declined,  
The sweeter radiance lingered o’er his mind.  
Cold were the lips that spoke his early praise,  
And hushed the voices of his early morning days,  
Yet the same accents dwelt on every tongue,  
And love renewing kept him ever young.”

Dr. MITCHELL said:

Mr. President and Gentlemen of the County Medical Society—I would indeed be derelict in my duty did I not embrace this opportunity to pay respect to the memory of Dr. Archambault. I have known him intimately as a colleague, a neighbor and a citizen. As a physician he was “par excellent.” It would be superfluous for me to dwell upon his known ability as a physician and surgeon, as you all have known him as a co-worker and as your president. I have practised beside him and with him for more than thirty years, and I can faithfully say I have never known a man so attached to his profession as he. He loved his profession, he loved his patients, and he loved his work. He gave the best there was in him to his patients. He studied morning, noon and night. His first and last concern was that he might be able and ready for any emergency that might arise in his professional work.

At the end of his career, he was as close a student as when he received his degree from Laval University. He watched for and followed every advancement made in the science of medicine and surgery.

As a consultant he was truly valued. Always recognizing his colleagues as his equal, he argued the points in the case logically, honestly and with due regard for both patient and physician, leaving the best impression with both.

As a neighbor he was honest, honorable and affable, and loved by all. As a citizen he was above reproach, always mindful of the welfare of his fellowmen. A faithful husband and a loving father. He loved his home and he loved his family; he was true to them and he was true to his calling and to all mankind.

Thousands mourn his loss; and many hearts are sore to-night in this city, knowing that they will never again shake him by the hand, hear his gentle voice, or see his winning smile. Truly, we have lost an eminent physician, an ideal citizen, and a dear, kind, loving friend.

Dr. A. VANDER VEER's tribute was then read by Dr. CURTIS:

Mr. President—We are met this night to honor and in eulogy emphasize our affection for one who, as a member of this society, we have loved and admired for many years.

For a professional man to have lived a long and successful life, in which it is finally admitted, both in and out of the profession, that his work has added lustre to a preparation that was eminently good, and the outgrowth of his own personal efforts, does not fall to the lot of every man, but such can truthfully be said of our deceased friend, Dr. Archambault. The echo comes to us now that in his early life he was faithful in the discharge of the duties that came to him as a student, as a young man, and ultimately destined to develop the very best citizenship. All along the number of years that was allotted to him to practice his profession, no criticism has ever arisen but that he did his work thoroughly well. Those of us who were somewhat more closely associated with him in his early years of practice are permitted,

from our knowledge of his cases, to say that few men were more thorough, more careful, more conscientious in reaching a conclusion relating to the diagnosis of the particular case in which he was interested, than was our deceased associate. Dr. Archambault was exceedingly careful in noting all the symptoms connected with the history of the patient, was exceedingly watchful as to the therapeutic results, and was among the too small number of men in our profession willing, when the time seemed appropriate, to revise, recast, and, perhaps, establish an entirely new diagnosis in a case that had baffled medical and surgical efforts. He was broadminded, listened with careful attention, and observed with a mind unbiased to the discussions and criticisms of papers, to the presentation of pathological specimens or to the histories of such cases as had a bearing upon the subject. In this way he observed intelligently, getting in touch with his professional brethren, and making the very best use of this in his own practical work.

It was very impressive to note the concise manner—in his delicate handwriting—in which he read the report of such cases as he felt would be of value in being presented at our medical societies from time to time. He was never a man desirous of intruding himself into the arrangement of papers for a county or state meeting, nor was he ever intrusive in his discussion of medical or surgical subjects, but when he did enter upon such duties he performed them with the greatest of care and a sense of truthfulness and responsibility that was admirable to witness. In later years Dr. Archambault belonged to a class of men in our profession whose latent powers and possibilities were developed largely along acquired environments. This is the point I wish to bring out: The establishing of hospitals in various parts of the State, as they have sometimes been designated "the smaller institutions," gave him an opportunity for putting into practice abilities that heretofore, had been kept somewhat in abeyance. Modern, up-to-date surgery has largely excluded the house to house operation that was done but a few decades ago, and when once the hospital in his own city was brought to full fruition Dr. Archambault was among the first to develop its advantages. His work as a surgeon added to his reputation as a successful practitioner. He performed his new responsibilities in a conscientious manner and he developed the ability to perform operations, and to keep abreast of modern methods of medicine and surgery that was a source of gratification to his friends and the admiration of his patients.

He has left a record of work accomplished and duties well performed that must ever be a comfort, strength and consolation to his immediate friends, but more especially to the household in which was centered the love and affection of the husband and parent. It is not for any of us gathered here to-night to lift the veil that protects the family circle in all its affection, but we know there was now and then an outer presentation of the love Dr. Archambault bore towards these cherished ones that he could not altogether hide, and it is a comfort to note the



affection and confidence that existed between himself and the son who is to follow in the profession of his father. We can only say that we will retain Dr. Archambault in our memory and affectionate regard for the work he did, for the good thoughts he gave us, and for the admirable example he has left of a life well spent.

It is proper we place upon our minutes such expression, in the form of the adopted resolutions that are to follow, and otherwise, that in after years we may renew our love and affection for him in studying anew what is now placed on record as the manifestation of respect and friendship of his associates.

The report of the committee on the occasion of the death of Dr. JOSEPH LACTANCE ARCHAMBAULT, was presented by Dr. CURTIS.

It is a sad duty which is committed to us, to memorialize the departure from this life of one who to each of this committee was a most esteemed friend. Dr. Joseph L. Archambault, of Cohoes, died October 16, 1913, after a few months illness in the 65th year of his age. We are met to estimate his worth and honor his memory.

The records of the Society show that Dr. Archambault joined its membership in 1874; his death terminates an association continuous for forty years. Fellow members cannot contemplate such a lengthy fellowship unconcernedly or regard it as other than notable. While certainly long duration of membership may mean little, for one can live apart from all that goes to make the interests and concerns of the organization and can not only be indifferent but even hostile to its best purposes, it is commonly the case that one must be to some extent a part of its life and to be long identified with it must find a place in its functions and in forming its character in relationship to his associates and in personal impress on those brought next to him by common fellowship. In varied ways we impress ourselves upon those with whom we have social and associational ties. In a body such as ours professional attainment plays a part; professional loyalty, appreciation of professional ideals, ethical professional consideration add to what one's membership counts for; and the personality of one who has a kindly heart which finds ready expression adds all the rest to make up the tale of what goes to make good effective membership in such an organization as this. The longer such a fellowship lasts the more it accumulates its measure of regard and esteem; and when it ends we feel in like measure the loss and at the same time are glad for the memory; we gather to recall the kindly thoughts that cluster around our association together. The membership of our friend just gone had these qualifications; as one in the ranks, as office holder and president; as fellow-practitioner, we have found him wisely informed, loyal and good hearted.

Dr. Archambault was the happy possessor of a personal charm and cheer that endeared him to everyone. He had the gift of expression and of manner, of courtesy and demeanor which had no trace of affectation, which spoke so surely of a kindly heart in so sincere a way that

he drew us to him. He had a most expressive countenance and one could not but be warmed toward him when it wreathed in smiles of pleasure at greeting, or showed in varied ways concern for one's fortunes. It is a happy possession when back of it is a good heart. His personality was always charming and fine.

He was a native of the Province of Quebec, Canada; born October 26, 1847. His education was received there and he was graduated from Laval University in 1869. For a short time he was settled in Albany but the active part of his professional life he spent in Cohoes whither he came in 1871. He has had a long and creditable career as a physician and citizen. Testimony to his professional aptitude and attainments is borne by his associates in medicine, and his extensive practice, consultation work and hospital service show the trust and esteem of the people. He long ago achieved a worthy place in the profession by which he has made himself eminent.

He was a man of intellectual tastes and training which gave finish to his careful record of cases, to his written papers and to his public and personal address. He lived a conscientious life in the community and had the esteem of the people of his home city; no better evidence of this could be given than in the large numbers that filled the church at his funeral service, many of them surely with saddened hearts at the loss of a trusted friend. In his case personal popularity was the outcome not alone of personal qualities that made him attractive but of a recognition of professional worth and the use of his attainments for the good of his fellow men, a service which the people know can never be overestimated.

The committee offers with these expressions of their estimate of our deceased fellow member and one time president, formal resolutions for adoption:

*Resolved*, That we honor the memory of Dr. J. L. Archambault, whose death has taken him from our association in the midst of a useful, full and happy life of service to his community and to his profession, for all that he has done by his attainments, conscientious living and good heart to meet the best purposes of his profession toward us his associates in it and toward the people with whom his lot has been cast.

That we are sad because he has been removed from this life with us, while we rejoice in the recollection of all that he has been to us and will preserve alive the memory of what his life has been to us and find in it inspiration and satisfaction.

That we convey to his family the assurance of our sincere sympathy in their loss of one who has been so much to them, and the honor with which we cherish his memory.

ALBERT VANDER VEER,  
FREDERIC C. CURTIS,  
WILLIS G. TUCKER,  
DANIEL V. O'LEARY,  
SAMUEL B. WARD,  
CYRUS S. MERRILL,

*Committee.*

Dr. DAUNAIS said:

Mr. President—It is with a depth of feeling that I arise on this occasion to give voice, in my feeble way, to the sorrow that we all must feel in the death of our late brother, Dr. J. L. Archambault. Of course, there is more of a camaraderie between people of the same tongue and nativity, than between those of a different tongue. And so it is that those amongst us of the French tongue of necessity were closer to and more in touch with our late brother than our native American friends.

To him as a young man, newly arrived in Cohoes from Canada, I went for advice as to not only the ways and manners of practising here, but on medical and surgical questions so apt to disturb the equilibrium and poise of a new practitioner of medicine. And how well I remember with what gentleness and graciousness he met and welcomed me to Cohoes and gave me so freely of that vast storehouse of knowledge he possessed.

Not an atom of professional jealousy, or pique at the entrance of a new doctor, and especially one who spoke French, was shown by him either then or at any other time, but the most pressing invitation was given to call on him for any knowledge or favor, and an assurance of help always, and such assurance was always a religious reality.

And in measuring up the man I look back over all those little personal meetings between us, both in a friendly and a professional way, and I feel that all that I can say here and now is wholly inadequate to what I feel in my heart, but my poor tongue fails to give utterance to.

I am sure we all feel that a deep loss has come to us. That this Society loses a valuable counsellor and one whose thorough and practical knowledge of medicine and surgery was held in the highest degree to be complete and practical.

We all know the number of times we have called him in counsel, feeling in his wisdom and advice we had done our best for our patient come what may, and how secure we felt in our method of treatment when sanctioned by him.

And what is to be said of him as a man? Is there any amongst us who do not know of his sterling Christian virtues? Is there a citizen of this, his adopted home, but feels the great loss this community has sustained in his loss both as a physician and a man?

No! his virtues are known. Our loss is deep! and we can only at this time bow our heads in grief and offer a prayer for him to God above.

Dr. LANAHAN said:

I had not the good fortune of his friendship, nor the close acquaintance with him that many of these members enjoyed, yet Dr. Archambault inspired me with such feeling of honor and respect that to me,



as to them; his death comes as a personal loss. I looked upon him, as other men have told us he impressed them, as my ideal physician, the soul of honor, kindly and considerate, a man beyond reproach, a gentleman by nature, and by education a physician of wisdom and of culture.

We read in the history of the Masters of Medicine the record of their achievements, and it thrills our souls and quickens our pulse and makes us proud to be of their profession. But in all their records we find no nobler incident than the story of this man, who, quietly and unostentatiously, following in the footsteps of the Gentle Nazarene, "went about doing good," not in the spirit of one who seeks the bubble reputation in the vain applause of the unthinking crowd, nor of one who coins his talents into sordid gold, but as a man who faithfully keeping a high ideal, honestly and conscientiously does the work that comes to hand, and finds his solace in that he has become an instrument for good in the hands of Nature and of Nature's God.

Truth held the guidance of his life, and Honesty was the foundation of his character; Honesty, that gave no place to hypocrisy nor cant, and Truth, which, while she revealed to him the secrets of Nature and scientific facts, taught him those eternal verities with which Nature and Science and Philosophy are always in accord. And so there were in him two qualities, side by side, intertwining and interfusing, and forming one twofold principle, actuating his life and vivifying his actions, a principle which, strengthened and developed and, as it were, incarnated, he leaves as a precious legacy to his sons, to the one his love of science, and to the other his love of God.

Who of us can forget the memorial meeting when he spoke that beautiful eulogium on Dr. Witbeck, in which he said, "To-day we owe a tribute to his memory, the tribute of an affection which he had easily conquered by his kindness and good fellowship." "After all, the most durable monument to one's life is the affectionate esteem and the unblemished remembrance one leaves behind him." With equal force and equal justice can his own words be applied to him. Featherstonehaugh, Montmarquet, Witbeck,—and now Archambault. Fortunate the city in which they labored as colleagues, and rich this Society in its grateful remembrance of them.

"If to the silent dead aught sweet and tender comes  
Of our deep grief,"

not tears and vain regrets of parting, but the abiding love of his children, the strong affection and appreciation of his friends, the grateful remembrance of his associates, the honor and respect of those to whom he has been an exemplar and an ideal will be the message sent to him in his abode of happiness, "beyond the flaming ramparts of the sky."



**Medical News**

**Edited by Arthur J. Bedell, M. D.**

**ALBANY GUILD FOR THE CARE OF THE SICK.**—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR FEBRUARY, 1914.—Number of new cases, 191; classified as follows: Dispensary patients receiving home care, 19; district cases reported by health physicians, 6; charity cases reported by other physicians, 70; moderate income patients, 75; metropolitan patients, 21; old cases still under treatment, 136; total number of cases under nursing care during month, 327. Classification of diseases for the new cases: Medical, 50; surgical, 11; gynecological, 4; obstetrical under professional care, mothers 39, infants 35; eye and ear, 1; throat and nose, 2; infectious diseases in the medical list, 49. Disposition: Removed to hospitals, 17; deaths, 20; discharged cured, 108; improved, 24; unimproved, 13; number of patients still remaining under care, 145.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 3; students in attendance, 6; nurses in attendance, 4; patients carried over from last month, 1; new patients during month, 7; patients discharged, 8; visits by head obstetrician, 1; by attending obstetrician, 0; by nurses, 72.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,511; for professional supervision of convalescents, 736; total number of visits, 2,247; visits to pay cases, 577; to charity cases, 934; unrecorded visits, 736; cases reported to the Guild by 2 health physicians, and 40 other physicians; graduate nurses 6, certified nurses 3, and 7 pupil nurses on duty.

*Dispensary Report.*—Number of clinics held, 94; new patients, 138; old patients, 408; total number of patients treated during month, 546. Classification of clinics held: Surgical, 14; nose and throat, 6; eye and ear, 14; skin and genito-urinary, 9; medical, 13; lung, 11; dental, 0; nervous, 0; stomach, 5; children, 13; gynecological, 9.

**ANNUAL MEETING OF THE ALUMNI ASSOCIATION.**—The annual meeting of the Alumni Association of the Albany Medical College will be held Tuesday, May 26th. You are urged to plan to spend the day in Albany and are assured of a good time by renewing your old acquaintances and seeing the rapid progress that is being made in teaching.

The decennial classes will hold their usual reunions.

**MEDICAL SOCIETY OF THE STATE OF NEW YORK.**—The regular annual meeting of the Medical Society of the State of New York will be held at the Hotel Astor, New York City, April 28th, 29th and 30th, 1914. Dr. George W. Crile, Cleveland, Ohio, will deliver his oration on "Surgery" and the president, Dr. William F. Campbell, of Brooklyn, will deliver his address. The society will meet in sections as follows:

Medicine, surgery, obstetrics, gynecology, pediatrics, eye, ear, nose and throat.

The new feature of this meeting will be the clinical side with hospital demonstration every afternoon including Friday and Saturday of that week.

**SMALLPOX BAN REMOVED.**—The smallpox ban that has been enforced at Niagara Falls during January and February was removed February 24th, on which date there were only sixteen cases of smallpox under quarantine. More than 20,000 persons have been vaccinated in the city.

**PREVENTION OF BLINDNESS.**—The Committee for the Prevention of Blindness has drafted the enclosed bill relating to the labeling of wood alcohol which, if passed, is expected to be of inestimable help in the prevention of blindness and death which all too often occur as a result of wood alcohol poisoning:

"No person or corporation shall manufacture, make, have, sell or offer for sale any article of food or drink which contains any methyl alcohol (commonly known as wood alcohol) or any preparation or mixture containing any methyl alcohol intended for internal use by man.

"No person or corporation shall sell, exchange, deliver, offer for sale or have in a place of sale any methyl alcohol in any form, or in any preparation or mixture containing any methyl alcohol, under or by whatever name or trade-mark the said preparation or mixture may be called or known, unless there be affixed to the bottle or vessel containing the same a conspicuous label bearing the words "Poison, Likely to Cause Blindness or Death," together with a skull and cross bones and the name and address of the maker, owner or seller, all conspicuously printed in red ink.

"Any person who violates any of the provisions of this section shall be guilty of a misdemeanor."

**MEDICAL SOCIETY OF THE COUNTY OF ALBANY.**—The regular meeting of the Medical Society of the County of Albany was held in the Supreme Court Chamber, City Hall, Albany, Friday, February 27, 1914, at 8.45 P. M.

The following program was presented:

"Skiagraphic Methods in the Diagnosis of Diseases of the Stomach and Duodenum with Cinematographic Reproductions and Lantern Slides," Dr. Arthur F. Holding, New York City.

The regular meeting of the Medical Society of the County of Albany was held at the Elks Club, Albany, Friday, March 27, 1914, at 8.45 P. M.

The following program was presented:

Dr. A. J. Bedell, Glaucoma. Abstract: Special reference to the condition as seen by the general practitioner. Aids to the Diagnosis of the condition. Treatment. Demonstration by lantern slides and mounted specimens. Presentation of patients.

Dr. N. K. Fromm, The Significance of Low Blood Pressure. Abstract: General considerations, various conditions in which Hypotension is present, including the infectious diseases; certain cases of arterio-sclerosis and pregnancy. Witte's artificial anaphylaxis.

**MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.**—The regular meeting of the Medical Society of the County of Schenectady was held in the rooms of the County Court House, Tuesday, March 10, 1914, at 8.30 P. M.

Scientific Program—"The Antrum of Highmore," Dr. John A. Heatley; "The Treatment of Parasyphilitic Nervous Diseases and Late Syphilitic Nervous Manifestations by Intraspinal Therapy" (from the Fourth Medical Division, Bellevue Hospital), Dr. Arthur Krida.

**SARATOGA SPRINGS MEDICAL SOCIETY.**—The regular monthly meeting of the Saratoga Springs Medical Society was held at the Business Men's Association rooms, on Friday, March 27th, 1914, at 9 P. M.

The following papers were read: "Abdominal Pain," Dr. G. S. Towne; "Report of Two Cases," Dr. A. J. Leonard; "Duodenal Ulcer with Case and Plates," Dr. E. H. King; report of health officer.

**LEGISLATIVE NOTES.**—The New York State Legislature adjourned Friday, March 27th. Several bills of great interest to physicians were introduced during the year and many of them were brought into the Assembly. The Kerrigan bill to license Chiropradists was defeated by one vote. The Jones bill introduced in the same body to license Neuropaths was defeated by twenty votes. The annual vivisection bill did not reach the house.

It is quite evident that physicians are not conscious of their personal responsibility when it comes to advising their representatives as to the best way of considering medical legislation.

Many other bills of interest to the physician have appeared during the year, a digest of which will be printed later.

**SOUTH END DISPENSARY, ALBANY, N. Y.**—At the annual meeting of the South End Dispensary Staff, held March 28th, Dr. John A. Sampson was elected president, Dr. John H. Gutmann, vice-president and the present secretary re-elected.

**SANITARY SUPERVISORS.**—The Public Health Council of the State Department of Health has prescribed the qualifications of sanitary supervisors and at the meeting of the Public Health Council on Jan. 21, 1913, it was agreed that sanitary supervisors should not be allowed to engage in the regular practice of medicine or in any regular occupation or business, except that they should be at liberty to accept other positions in public health work, such as local health officer, teacher of public health, etc., the State Department of Health retaining the power to determine at any time whether the extent of such work interfered with the proper performance of the duties of sanitary supervisor. It was agreed that the salary should be sufficient to enable competent men to devote their entire time to public health work and to look forward to it as their career. It was agreed that the salary should be \$4,000 a year, this to include traveling expenses, the use of an automobile, etc.

**ALIEN INSANE BILL SIGNED.**—Governor Glynn of New York on February 19, signed the Blauvelt bill which gives to the Governor the power to appoint a commission to endeavor to obtain Federal legislation which will relieve New York State from the support of the alien insane. The Governor at once appointed Senators Blauvelt and Brown and Dr. Spencer A. Dawes as members of the commission. They will go to Washington to urge the passage of a measure which will place upon the Federal Government the burden of caring for the insane who reach this State from foreign countries. It is estimated that the desired legislation will save the State about \$3,000,000 a year.

**SALE OF MERCURY RESTRICTED.**—The Board of Health of New York City at a recent meeting passed in its final form a resolution restricting the sale of bichloride of mercury. The resolution which became effective March 1, reads as follows: "No person shall sell or offer for sale at retail bichloride of mercury, otherwise known as corrosive sublimate, in the dry form except upon the prescription of a duly authorized registered physician or veterinary surgeon, and then only in tablets of a particularly distinctive form and color, labeled 'Poison' upon each tablet and dispensed in seal glass containers conspicuously labeled with the word 'Poison' in red letters."

**INTERNATIONAL CONGRESS ON DISEASES OF OCCUPATION.**—The third International Congress on Occupational Diseases will be held in Vienna in September, 1914. Among the topics to be considered are: "The Physiology and Pathology of Fatigue, with Special Reference to Vocational Work and to the Effects of Night Work on the Nervous System;" "Work in Hot and Damp Air;" "Occupational Anthrax;" "Pneumoconiosis;" "Injuries Caused by Electricity;" "Industrial Poisonings;" "Injuries of Hearing Caused by Industrial Pursuits."

**NEW YORK SKIN AND CANCER HOSPITAL.**—A course of Clinical Lectures and Demonstrations will be held in the out-patient department of the New York Skin and Cancer Hospital, New York City on the afternoons of April 1st, 8th, 15th, 22nd, and 29th, by Dr. Bulkley. The following subjects will be presented: "Primary Lesions, Genital and Extra-Genital-Innocent Syphilis;" "Early Manifestations of Syphilis;" "Marital and Hereditary Syphilis;" "Treatment of Syphilis." Dr. William S. Bainbridge will present "Some Practical Phases of the Cancer Problem," on April 30th.

**UNITED STATES CIVIL SERVICE EXAMINATION.**—The United States Civil Service Commission announces that senior students of reputable medical colleges will be admitted to the open competitive examination for medical interne in the Government Hospital for the Insane, to be held on April 8, 1914, upon filing applications showing them to be otherwise eligible; but in the event they attain an eligible average in the examination their names will not be entered upon the eligible register until they have furnished proof of actual graduation from such colleges.



UNITED STATES CIVIL SERVICE EXAMINATION.—Medical interne, Government Hospital for the Insane, April 8, 1914. The United States Civil Service Commission announces an open competitive examination for medical interne, for both men and women, on April 8, 1914, at the places mentioned in the list printed hereon. From the register of eligibles resulting from this examination certification will be made to fill vacancies in this position in the Government Hospital for the Insane, Washington, D. C., at \$900 per annum, with maintenance, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The positions are tenable for one year, and pay \$75 a month and maintenance. During the year, however, a postgraduate course in mental and neurological diagnostic methods is given, an examination is held, and promotions to the next grade, junior assistant physician are made. Beyond this there is regular advancement for men whose services are satisfactory. The Government Hospital for the Insane has over 3,000 patients and about 800 employees to care for. In addition to the general medical practice offered, the scientific opportunities in neurology and psychiatry are unsurpassed.

As considerable difficulty has been experienced in filling vacancies in the position of medical interne in the hospital service during the past several years owing to the limited number of eligibles available, qualified persons are urged to enter this examination.

Competitors will be examined in the following subjects, which will have the relative weights indicated:

Subjects.	Weights.
1. Letter writing (the subject matter on a topic relative to the practice of medicine).....	5
2. Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy).....	10
3. Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry, the physiologic action and therapeutic uses and doses of drugs).....	15
4. Surgery and surgical pathology (general surgery, surgical diagnosis, the pathology of surgical diseases).....	20
5. General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of diseases).....	25
6. Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the application of hygienic methods to prophylaxis and treatment).....	10
7. Obstetrics and gynecology (the general practice of obstetrics, diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical).....	15
Total.....	100

Graduation from a reputable medical college is a prerequisite for consideration for this position.

Applicants must not have been graduated previous to the year 1909 unless they have been continuously engaged in hospital, laboratory, or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application.

Both men and women will be admitted to this examination. Applicants must be unmarried.

Age, 20 years or over on the date of the examination.

This examination is open to all persons who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the list printed hereon, for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington in time to arrange for the examination at the place selected by the applicant. In applying for this examination the exact title as given at the head of this announcement should be used.

PERSONALS.—Dr. ADAM Y. MYERS (A. M. C. '82), has removed from Buskirk's Bridge to Cobleskill, N. Y.

—Dr. GEORGE M. GLENN (A. M. C. '11), is engaged in active practice at Fort Edward, N. Y.

—Dr. JOHN PARKER (A. M. C. '13), is practicing at Raquette Lake, N. Y.

—Dr. CHARLES W. WOODHALL (A. M. C. '13), who was resident physician at Mercy Hospital until October, 1913, is now assisting Dr. E. MacD. Stanton of 511 State St., Schenectady, N. Y.

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DIED.—Dr. CHARLES M. SMITH (A. M. C. '58), a member of the Medical Society of the State of New York, for twenty-one years post-master at Whitesboro, N. Y., died at his home January 27th, from cerebral hemorrhage.

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## In Memoriam

J. L. ARCHAMBAULT, M. D.

*A Filial Tribute, by La Salle Archambault, M. D.*

Dr. J. L. ARCHAMBAULT of Cohoes quietly passed away Thursday afternoon, October 16, 1913, at the residence of his son-in-law, Mr. Lucien Dansereau, in Montreal. The doctor had gone to Canada only a month before in the hope of recovering more integrally from the exceptionally acute and severe illness which almost ended his life in the early days of July last. Prior to that time, the doctor, who was actually in his sixty-sixth year, had apparently enjoyed perfect health, but, with the



J. L. ARCHAMBAULT, M. D.





advent of the extreme summer heat, he rapidly showed signs of intolerance and seemed suddenly deprived of his usual and remarkable power to withstand the drain of professional exigencies. Spurred on, however, by his habitual energy and by his unfailing loyalty to his patients, Dr. Archambault ignored himself entirely and continued to face the trying problems of his practice. There is no question that this strained expenditure of reserve-force was directly responsible for the abrupt development of the malignant anemia which so rapidly and completely disabled him. In less than a week, his condition had become so desperate that all hope was practically abandoned. He rallied however, from this initial prostration and even seemed to improve steadily during a period of several weeks. Unfortunately, this temporary amelioration was followed by a recurrence of alarming symptoms and every effort to save him remained futile. Thus the physician, who for more than forty years labored night and day for the good of his fellow men, died a martyr to the cause he so nobly represented and so heroically upheld.

Dr. J. L. Archambault was born in the village of St. Scolastique, Province of Quebec, October the 26th, 1847. He was but a child of five years when he had the misfortune of losing his mother, and was only sixteen years of age, and on the point of completing his college education, when his father, a country physician of recognized ability, died as the result of a fracture of the skull. His earlier instruction he received under the tutelage of his uncle, the Reverend M. Archambault of St. Hugues, P. Q., and at the College of St. Hyacinth; he then completed his classical studies at the College of the Assumption. He was barely in his seventeenth year when he entered the medical department of Laval University in Quebec and began the four year curriculum of his professional training. As a student of medicine, he exhibited the same remarkable proficiency for learning and the same tireless ambition which had previously served to signal him out as a pupil of exceptional talent and ability while at college. For four consecutive years he carried off the famous Morin prize awarded to the student passing the best final examination in all subjects. Having received the degree of doctor of medicine in the spring of 1869, Dr. Archambault came to the United States the following year and first located in Albany, N. Y., where he actually began his professional career in the fall of 1870. A few months later, a better opportunity presenting itself in Cohoes, Dr. Archambault, upon the advice of his friends, went to that city and established there his permanent residence. He lost no time in taking the necessary steps to acquire the rights of citizenship and from that time to his last day, he proved himself an honorable, upright and conscientious citizen.

In the spring of 1872, Dr. J. L. Archambault was united in wedlock to Miss Marie Wilhelmine Dansereau, daughter of Dr. Pierre Dansereau of Louisiana. Ten children were born to them, three of whom died in early childhood. Scarcely more than a year and a half had elapsed since the lamentable death of Mrs. Archambault, when the doctor was stricken with his fatal malady.

Dr. Archambault is survived by three sons, the Reverend Vincent de Paul Archambault of the Catholic Diocese of Albany, Joseph Archambault of Cohoes, and Dr. LaSalle Archambault of Albany, N. Y., and four daughters: Mrs. Lucien Dansereau of Montreal, Canada, the Misses Noemi, Aline, and Rachel Archambault of Cohoes.

Both as a man and as a physician, Dr. Archambault was possessed of qualities eminently worthy of note. As a man, he was modest almost to a fault, courteous and affable in his manners, scrupulously methodic in the accomplishment of all tasks, and always willing to overlook the shortcomings of others, and to give aid to the needy. As a Christian and a Catholic, he exemplified the just man of biblical tradition by his righteousness and integrity. Inspired by the loftiest ideas and the most unflinching moral principles, he was always guided by a sense of fairness and broadmindedness which enabled him to cherish his firm religious convictions without assailing those of others. The sanctity of the home and the serenity of the family were ideals which Dr. Archambault nurtured from his youth and which he effectively assured by his magnanimous nature and by his model and irreproachable conduct. He had been a devoted and attentive husband; he remained a kind and generous father who brought sunshine and happiness into his household and warmth and consolation into the hearts of his children. Aside from his professional attainments, Dr. Archambault was also richly endowed in many respects. He was a man of refinement and culture, and a scholar of exceptional merit. Well versed in literature and history, an excellent critic of music and art, he astonished every one by showing himself at all times thoroughly conversant with the topics and events current in practically every sphere of human activity.

As a physician, Dr. Archambault's personality cannot soon wane from the memory of those who have known him. He embodied to a superlative degree all the characteristics of professional distinction. The immaculate tidiness of his person, the correctness of his manner, the quiet and unassuming way of entering with a cheerful countenance the presence of a patient, the sympathetic and almost caressing tone of his voice, all contributed to make him the friend as well as the medical adviser of those whom he visited, and to identify him as the peerless physician of the community in which he lived. His patience and gentleness with children, his respectful attitude toward the aged, his kindly and considerate attention to all, seemed to inspire confidence everywhere and to instil hope and courage into those who suffered. The fact is that Dr. Archambault was thoroughly imbued with the sense of his professional duty and that he constantly labored under the fear of meeting inadequately the overwhelming responsibilities of his practice. Conscientious in the extreme and actuated only by motives of fidelity and devotion to his task, he carried home with him the cares and sufferings of his patients and never dismissed worry or anxiety from his mind until he had convinced himself that all had been done well and that nothing had been left undone. Toward his fellow practitioners,

Dr. Archambault exhibited in an equal measure all the traits of the perfect gentleman and of the staunch and faithful associate. It may be said without hesitation that, by reason of his tremendous experience, his far reaching knowledge, his remarkable judgment and his consummate skill both as a physician and a surgeon, he became long ago the unrivalled consultant of Cohoes and its immediate vicinity. In recent years, his opinion and advice were sought on every hand and almost daily. His courteous and considerate demeanor towards his colleagues, his mathematical precision and punctuality, his willingness to render assistance at all times and under all circumstances, left no room for ill feeling or adverse criticism. In point of scientific learning, Dr. Archambault's knowledge extended widely into all branches of medicine. While he remained actively engaged in general practice for a period of almost forty-five years, he early showed a decided preference for surgery, and during the last twenty years devoted the greater part of his activity to this particular field of medicine.

Dr. Archambault was a member of the Medical Society of the County of Albany of which he had been president during the year 1898 to 1899; he was also a member of the Medical Society of the State of New York and of the American Medical Association. While it cannot be claimed that he left an imposing list of scientific publications, he was the author of several monographs of unquestioned merit and of decided originality. Among these may be mentioned his articles on "Serumtherapy, Intubation and Tracheotomy,"<sup>1</sup> on "Congenital Atresia of the Small Intestine,"<sup>2</sup> and on the "Treatment of Puerperal Eclampsia."<sup>3</sup> His presidential address before the County Medical Society on "Retropharyngeal Abscess and Pulsating Empyema"<sup>4</sup> had hardly appeared in the ALBANY MEDICAL ANNALS when it was accorded in the *London Lancet* a most detailed and flattering analysis. A more recent communication on "Tuberculosis of an Adenomyoma of the Uterus"<sup>5</sup> proved sufficiently interesting to bring forth from the *Revue de Gynécologie* of Paris an urgent request for the publication of a translated version.

It is hardly necessary to recall the preponderant part which Dr. Archambault had in ensuring the viability and growth of the Cohoes City Hospital. He became identified with its medical organization from the very outset, and remained thereafter its most faithful and zealous supporter. It is well recognized that the steadily increasing efficiency and scientific development of the hospital are due in very great part to his untiring effort and to his constant and painstaking labor.

<sup>1</sup> ALBANY MEDICAL ANNALS, May and June, 1898.

<sup>2</sup> ALBANY MEDICAL ANNALS, July, 1904.

<sup>3</sup> ALBANY MEDICAL ANNALS, February, 1910.

<sup>4</sup> ALBANY MEDICAL ANNALS, February, 1900.

<sup>5</sup> *Journal of the American Medical Association*, September 8, 1906, and *Revue de Gynécologie*, February, 1907.



## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*Case Histories in Pediatrics.* A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis, and Treatment of the Most Important Diseases of Infancy and Childhood. Second Edition. By JOHN LOVETT MORSE, A. M., M. D., Assistant Professor of Pediatrics Harvard Medical, Associate Visiting Physician at the Infant's Hospital and at the Children's Hospital, Boston. W. M. Leonard, Boston, Mass. 1914.

The first edition of this work met with such popular approval that a second edition was demanded in a very short space of time. Dr. Morse has doubled the number of case histories in this edition, which now includes two hundred cases. This has enabled him to include a number of subjects which were not touched upon in the first edition, so that now all of the important and characteristic diseases of childhood are now included.

In the preface the author replies to criticisms of not placing the diagnosis at the head of each case. He explains that the diagnosis was omitted purposely so that the reader might study out the diagnosis for himself. These cases can be considered as a series of problems, each one to be solved by the reader.

A most valuable addition is the first section, which treats of the normal development and the physical examination of infants and children. This occupies more than fifty pages and is excellently illustrated with photographs from the author's own cases. The reader is able to familiarize himself with the normal development of the child and the methods of examination employed and followed by Dr. Morse, which makes the work of great value both to the medical student and the general practitioner.

The chapter on the stools in infancy, dealing with the various characteristics, microscopic and macroscopic, is most excellent and is to be commended. The author goes into the examination of the urine and of the blood. No mention, however, is made regarding the technique of lumbar puncture and absolutely nothing is said regarding the appearance and cellular examination of the spinal fluid. He has also omitted a description of the various tuberculin tests and of the more recent luetin test. In several of the cases the importance of the tuberculin test and lumbar puncture are emphasized, hence the omission in this first section is unfortunate.

A very useful and serviceable classification of the diseases of the gastrointestinal tract is given on page 115. This classification is the one adopted by the Department of Pediatrics of the Harvard Medical School.

The index has been greatly enlarged in the present volume and many more cross references have been included. For instance, under Pneumonia we find thirty-one references, in which pneumonia was the correct



diagnosis in four cases. In all the other cases it was suspected but eliminated in the differential diagnosis. The physician generally consults the index first in order to discover Dr. Morse's ideas of treatment and diagnosis in any one disease.

The second edition should be purchased by everyone who already has the first edition, for in many ways it is an entirely different book. It is to be recommended to all students and practitioners of medicine.

H. L. K. S.

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*The Surgical Clinics of John B. Murphy, M. D.*, at Mercy Hospital, Chicago. Volume II. Numbers V+VI. Philadelphia and London: W. B. Saunders Company, 1913. Published Bi-Monthly. Price per year: Paper, \$8; cloth, \$12.

Number 5 of volume II contains a discussion of seventeen subjects and occupies 174 pages of subject matter. Among the more important of these is the technique of the Andrews operation for inguinal hernia, the treatment of acute appendicitis and its complications, osteitis fibrosa cysticus of the femur and its treatment by the insertion of a bone transplant into the cavity, ankylosis of the knee joint and the importance of early management of joint infections to prevent ankylosis, congenital ideopathic dilatation of the colon or Hirschsprungs disease, and a talk on cancer by Dr. Rodman.

Number 6 of the same volume contains a presentation of twelve subjects covering 186 pages including an excellent index to volume 2. Among the more important of the contents of this volume is the production of artificial pneumothorax by the injection of nitrogen in the treatment of tuberculosis of the lungs, several interesting bone conditions such as cyst of the radius, exostosis of the radius and ulna, ununited fracture of the radius, ankylosis of the elbow, laminectomy for tuberculoma of the spinal column with compression of the cord, metastatic carcinoma of the femur and traumatic sarcoma of the femur. In addition to these three an interesting presentation of phynephrosis, cholelithiasis and undescended testicle.

Both volumes are well illustrated and in every way attain to the standard already set by the previous publications.

A. W. E.

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## TUBERCULOSIS

Edited by Arthur T. Laird, M. D.

*A Study of the Spread of Tuberculosis in Families.*

HERBERT G. LAMPSON. *The University of Minnesota Studies in Public Health*, No. 1, Minneapolis, 1913.

In thirty-three families classed as containing open cases of pulmonary tuberculosis one hundred and seventy-three individuals were examined, one hundred and one individuals beside the original open case showed evidence of infection, sixty-seven per cent. of the individuals exposed.

In fifteen non-tuberculous families eighty individuals were examined of whom two showed evidence of infection, two and one-half per cent of those examined.

To determine the presence of infection in the foregoing individuals the author relied mainly on the Von Pirquet test though physical examinations were also made. The number of cases in which it was positive, twelve and one-half per cent, in the non-tuberculous families is remarkably low considering the fact that Hamman and Wolman obtained the reaction in fifty-seven per cent of one hundred and eighty-eight non-tuberculous cases and similar percentages have been reported by Hamburger, Calmette and other observers. The author did not look for the reaction in some cases until after forty-eight hours which may in part explain the surprisingly low percentage of positive reactions he obtained.

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*One Hundred and Ten Cases of Artificial Pneumothorax. (110 Fälle von Künstlichen Pneumothorax.)*

ZINK. *Beiträge zur Klinik der Tuberkulose*, 1913, XXVIII, 1.

Zink treated one hundred and ten patients by this method including one patient with bronchiectasis.

In nearly all cases there was extensive tuberculosis of *one* lung while in only thirteen patients was the other lung entirely free from disease. Eleven patients had laryngeal tuberculosis, three had tuberculous enteritis and two chronic nephritis. Six had severe hemoptyses and sixteen were continuously febrile. In four cases there was a pleural effusion present before the operation and in two there was a spontaneous pneumothorax.

The results of the treatment may be briefly summarized as follows:

In eighty-one cases a real pneumothorax was established. In thirty-five there was complete collapse of the lungs. In the remaining forty-six complete collapse was prevented by adhesions.

Twenty-five out of sixty-seven patients lost their sputum completely. Besides these twenty-nine ceased to have tubercle bacilli in their sputum.

Thirty-one of those receiving the treatment are now able to work. In nine there is no longer any pneumothorax but twenty-two are going about their accustomed occupations with the lung still collapsed. In all, the condition of the lung is such that a complete return to health is to be expected. In some of these patients the pneumothorax has been continuous for nearly two years.

Sixteen patients have relapsed, five of them probably because the treatment was not continued long enough.

Eleven more did badly although pneumothorax was established. In five of these there was extension of the disease in the opposite lung.

The author believes that artificial pneumothorax is indicated:

1. In all chronic cases in which cavity formation is demonstrable either by clinical or skiagraphic methods, even when limited to one lobe.

2. In the severe acute infiltrative forms of pulmonary tuberculosis and in cases of pneumonia.

3. In chronic infiltrative forms even though limited to one lobe if their progressive character has been shown by failure to benefit from other methods of treatment.

4. In tuberculosis of a lower lobe when the upper lobes are not involved, though here the prognosis should be guarded on account of the bronchiectasis which frequently is present.

5. In cases in which there are repeated severe hemoptyses. In desperate cases it should be used even though both lungs are involved.

Active tuberculosis of the opposite lung is the principal contra-indication. The method should not be employed when there is asthma or marked emphysema. Patients suffering from intestinal tuberculosis do not as a rule bear the operation well.

Tuberculosis of the larynx on the other hand is not a positive contra-indication. Organic diseases of the other organs, the kidneys and the heart, render the prognosis less favorable as do also non-tuberculous affections of the lung, such as abscess, gangrene, fetid bronchitis and bronchiectasis. When those conditions are present it should not be used.

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*Spontaneous Tuberculosis in Guinea Pigs. (Ueber spontane Meerschweinchen Tuberkulose.)*

OSKAR FEYERABEND. *Beiträge zur Klinik der Tuberkulose*, 1913, XXIX. 1.

Kock in 1884 in his original reports on the tubercle bacillus stated that he had rarely found spontaneous tuberculosis in any of the hundreds of guinea pigs which he had purchased and that it had not developed after they had come into his possession except in animals that had been in the same room with other tuberculous guinea pigs for three or four months.

The usual practice, in the tests made of various body fluids to determine whether they contain tubercle bacilli or not, is to assume that the guinea pig used is free from tuberculosis.

Feyerabend shows that this assumption may not always be justified. While working in Von Behring's Institute at Marburg, he found that a considerable number of the guinea pigs of a group of fifty used in diphtheria work were tuberculous, at least a quarter of the whole number. A month later, a second group of guinea pigs were obtained from the same source and one pig was found to be tuberculous. In a third group of sixty guinea pigs, six were tuberculous.

The tubercle bacilli isolated from these infected animals were all similar in form and cultural characteristics and showed the peculiarities of the bovine type of tubercle bacillus.

On investigation it was found that these guinea pigs had been kept in close contact with an unhealthy goat and had been fed on its milk. Although the author could not get possession of the animal, he learned that it had had a cough and that the owner had killed it soon after he

learned that some of the guinea pigs were infected. The owner had made an attempt at post-mortem examination and had found large holes in the animal's lungs.

The author concludes that while guinea pigs are susceptible to spontaneous infection with tubercle bacilli, if exposed, the opportunity for such infection is rare. Spontaneous tuberculous infection of guinea pigs is always a possibility but the actual occurrence of such infection is unusual.

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## OBSTETRICS

Edited by James P. Boyd, M. D.

*Under what Conditions Should Uterine Inertia be Treated by Artificial Delivery?*

EDWIN B. CRAGIN. *Surgery, Gynecology and Obstetrics, Vol. XVII, No. 3, September, 1913.*

In addition to the commonly-considered dangers of uterine inertia, namely intra-partum and post-partum hemorrhage and infection, the author states that the condition entails a definite mortality and morbidity for the child; *e.g.*, cerebral hemorrhage from attempts at operative delivery and, although possibly not manifest until later in childhood, impaired mentality from prolonged cerebral pressure occasioned by a delay in resorting to artificial delivery. The marked alterations in the foetal heart rate and the presence of meconium in the liquor amnii even during the first stage of labor with inert uteri are evidences of the embarrassment to which the child is on occasion subjected at a stage of labor ordinarily supposed to effect it in no way adversely.

That inertia be intelligently treated it is essential that its causes accurately be determined. The author urges the "earlier and clearer recognition" of them as one of the crying needs in obstetrics to-day and emphasizes the importance of posterior positions of the occiput as a causative factor in the condition.

With the definite class of cases that will not respond to rest, or the use of drugs, or simple manual rotation of the occiput, and require operative treatment, the writer is concerned. His operative indications may be summarized as follows: endangered foetal life and maternal convalescence.

In uniform and frequent observations of the foetal heart beat, noting its strength, rate and regularity, the operator has definite knowledge as to the general condition of the child. Such examinations are imperative during labor and altogether too frequently omitted. They can be made, if obvious precautions are taken, even after the "field" is sterile and are facilitated greatly by the dorsal position of the patient. Slowing of the foetal heart rate is unfavorable; if associated with irregularity, the situation is serious and calls for artificial delivery. Delivery must be expedited but its method will depend upon the cause of the dystocia and it need not be immediate; *e.g.*, an undilated cervix



must be gradually dilated (possibly by the use of the elastic bag), or a persistent occiput-posterior position artificially corrected, or a definite bony obstruction overcome by indicated Cesarean section.

Though contractions have been too weak to occasion any advance of the presenting part, continued pressure of the child against the uterine wall, the vagina and the bladder may readily occasion post-partum hemorrhage, necrosis and, if the membranes have ruptured, infection. The foregoing facts must be borne in mind in determining how far uterine inertia may be allowed to proceed without endangering the maternal convalescence. In the same connection the author urges the frequent necessity for artificial delivery in a class of cases represented by the highly organized, nervously unstable woman possessing sufficient nerve and muscle energy only partially to complete labor. Many such are benefited by the earlier-mentioned and simpler methods of treating inertia. Others, though of late the number is decreasing through the judicious administration of pituitary extract, are wholly unequal to the task of advancing and terminating labor and, that the convalescence may not be retarded by physical or mental exhaustion and possibly protracted for the same reasons, demand artificial delivery. The physical findings that might be said to demand delivery are not definite though it may be said that moderate oedema and dryness of the maternal soft parts and ruptured membranes with labor well under way but with no progress in dilatation or advance of the presenting part within an hour are general indications for the artificial termination of labor. The operative treatment to be employed again will depend upon the cause of the dystocia and the condition of the mother and the child.

In closing, the writer mentions the long delay often experienced between the time of rupture of the membranes and the appearance of uterine contractions. Though not cases of true uterine inertia, the clinical pictures often are not unlike those of the latter, when the risks to mother and child are apparent. He has adopted as routine the introduction of an elastic cervical dilator, at the end of a twenty-four hour interval following rupture of the membranes, to prevent further escape of fluid and bring about the onset of uterine contractions (and actual labor).

P. T. H.

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*The Conduct of Pregnancy and Labor in Acute and Chronic Affections of the Heart.*

J. CLARENCE WEBSTER, *Surgery, Gynecology and Obstetrics, Vol. XVII, No. 3, September, 1913.*

In the rare acute cardiac affections of pregnancy, the uterus is to be emptied. Because of the inability of the heart muscle to stand the ordeal of abortion at once, satisfactory compensation must be sought, when pregnancy should be artificially terminated. Compensation sufficient to stand the ordeal either of premature or full-term labor is not to be expected.

In valvular lesions and myocardial degenerations occurring late in pregnancy, the author favors the immediate termination of pregnancy, in spite of the grave dangers of pulmonary oedema and dilatation of the right heart, rather than an expectant treatment.

Pregnancy in those suffering from chronic cardiac conditions is inadvisable; for obvious reasons the processes tend in no way toward spontaneous improvement. However, some cases even of pronounced organic disease appear to suffer no more than under normal conditions. Especially if compensation be only fairly well or recently established, combined mitral stenosis and insufficiency is most to be feared both for the mother and the child. The especial dangers to which the latter is subjected are spontaneous termination of pregnancy before the period of viability, impaired vitality from deficient oxygenation of the maternal blood and asphyxia from destruction of placental tissue by hemorrhage.

In expectant cases, the patient is to be placed upon the strictest regime; the value of the routine administration of drugs is problematical except at the appearance of the slightest sign of failing compensation.

At the appearance of signs of threatened abortion, the interruption of pregnancy is indicated. Threatened cardiac failure calls for immediate treatment directed to the heart, the uterus to be emptied if possible after improvement has been shown.

The essential dangers in labor arise during the second or expulsive stage; these are minimized by careful and speedy operative delivery combined with the administration of vaso-dilators.

The immediate danger post-partum is that of overdistention of the right heart from the sudden closure of the uterine circulation. As prophylactic measures, the use of vaso-dilators and the gradual manual separation of the placenta, possibly with the intentional loss of considerable blood, are advisable. Strong contractions are undesired; any tendency toward undue bleeding can be readily controlled by the usual means at the disposal of the operator.

P. T. H.

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*The Elastic Area in the Isthmus of the Uterus. A Positive and Early Sign of Uterine Pregnancy.*

LOUIS J. LADINSKI. *American Journal of Obstetrics*, Vol. LXVIII, Whole No. 428, August, 1913.

Of the various presumptive and probable signs of pregnancy, the author is of the opinion that the change in consistency of the uterus constitutes the most positive sign of early pregnancy. But with the change in consistency at the isthmus the writer is concerned and the sign he would urge as pathognomonic of early pregnancy is described as follows: "The change I have invariably found in early uterine pregnancy consists of a circular area situated in the median line of the anterior surface of the body of the uterus, just above the junction of body and cervix, that is to say at the isthmus of the uterus, which varies in size according to the duration of pregnancy, and offers to

the palpating finger the distinct sensation of elastic fluctuation. It can frequently be made out as early as the fifth week, when the area is only the size of a finger tip; but it can always be felt in the sixth week, when it is somewhat larger. As pregnancy advances this area increases in size in a crescentic manner, and extends upward toward the fundus until the third month of pregnancy, when nearly the anterior body of the uterus presents a fluctuating, cystic feel to the examining finger."

The sign is elicited, by careful bimanual examination, to greatest advantage with the uterus in its anatomical position. When the organ is retroverted, the elastic area is noted, though at a somewhat later period, in the posterior wall.

Changes in consistency of the uterine wall have long been accepted as early signs of pregnancy. Softness and compressibility of the lower uterine segment (Hegar's sign) are fairly constant at the third month. Dickinson has considered a bulging or bellying of the body of the uterus the most valuable sign of early pregnancy and found it to obtain at an earlier date than Hegar's sign. Other characteristics peculiar to the uterus in early pregnancy are mentioned: it is cystic; the organ is irregular in shape depending upon the location within it of the growing ovum; it is soft and, until the end of the third month, expands laterally; and before lateral compressibility can be elicited, the isthmus becomes flexible, making it possible to bend the organ or compress it along its longitudinal axis.

The value of the author's sign, namely elasticity of the isthmus, rests in its early appearance (from the fifth to the sixth weeks) and in the fact that it is constant and can be detected with greater ease than any of the other objective signs of pregnancy.

From early pregnancy practically all pathological conditions can be differentiated by means of the sign mentioned. However, when cystic tumors occupy the anterior uterine wall, the elastic feel of the isthmus is identical with that of pregnancy and additional evidence is required to differentiate between the two conditions.

Based upon an extensive operative experience, the author is of the opinion that extrauterine pregnancy is frequently incorrectly diagnosed and operative measure needlessly resorted to. Further, he believes the possibility of combined extra- and intra-uterine pregnancies exceedingly remote. The presence or absence of a uterine pregnancy first must be determined with certainty; upon the presence or absence of the sign mentioned, the diagnosis is made. With the foregoing facts are combined the subjective and objective signs of extra-uterine pregnancy that may be obtained, when the diagnosis of the latter condition can be made with as much certainty as that of any other pathological condition of the pelvis.

In incomplete abortion, the elastic feel is replaced by one that is soft and doughy.

As to the cause of the change in consistency of the uterine wall, the



author is in doubt though inclined to believe it due to a hypertrophy not only of the muscular and connective tissue elements but also of the vascular and lymphatic structures of the uterine walls. P. T. H.

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*Emptying the Uterus as a Method of Treatment of Puerperal Eclampsia.*  
REUBEN PETERSON. *American Journal of Obstetrics*, Vol. LXVIII, Whole No. 428, August, 1913.

Since the etiology of eclampsia is still unknown, its treatment must be empirical. That in general it must be eliminative, all are agreed, but, in what respect and to what extent, opinion differs. There have resulted two distinct methods of treatment; the so-called conservative or medicinal and the operative. The former treats the manifestations of the disease; the latter aims to empty the uterus as soon after the first convulsion as is possible, when the eliminative treatment is vigorously pushed.

Replying to Zinke, the ardent champion of the conservative treatment, the writer insists that valuable conclusions can be drawn only from a large number of cases of eclampsia subjected to different methods of treatment and not from a restricted series regardless of how favorable results have been obtained. It must be acknowledged that in the past many late, medically treated cases have at length been subjected to operative treatment with disastrous results and that all operative treatment has been neither timely nor correctly carried out.

Tables of statistics on the maternal mortality after spontaneous and operative delivery in eclampsia are given; a large number of cases (more than 2,500) is considered. It is interesting to note that, before 1900, the mortality following operative delivery was five per cent greater than that following spontaneous labor. However, since 1900 the percentage has swung in the other direction and, in a large number of cases (over 1,700) there is an advantage of four in favor of treatment by operative delivery. When the uterus is emptied immediately or very soon after the onset of the first convulsion, the maternal mortality is still lower.

Since the medical treatment has changed but little during the two periods, the greater improvement in the mortality rate must be due to the fact that better and more prompt obstetric surgery is being practiced.

Unless pelvic contraction obtain or unless the cervix cannot be pulled down, the author favors vaginal Cesarean section as entailing minimum shock and trauma. After delivery, the eliminative treatment is pushed to the limit. Veratrum is considered a drug that must be administered with care; of its use the author is not an ardent advocate.

With the gradual improvement in obstetric surgery, the foetal mortality is decreasing. Improvement is noted especially when delivery is accomplished soon after the onset of convulsions. It must be borne in mind that the child as well as the mother is being poisoned and delay in delivery, either spontaneous or operative, is not desired.



# ALBANY MEDICAL ANNALS

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## Original Communications

### THE TREATMENT OF THE PARASYPHILITIC NERVOUS DISEASES AND LATE SYPHILITIC NERVOUS MANIFESTATIONS BY INTRASPINOUS THERAPY.\*

*Read at the March, 1914, meeting of the Schenectady County Medical Society.*

By ARTHUR KRIDA, M. D.,  
*Schenectady, N. Y.*

In recent years the subject of the association of certain chronic diseases of the central nervous system with syphilis has been the basis of considerable investigation. Tabes dorsalis and general paresis have come to be called "para"-syphilitic processes. That this association seems to be of a nature even more intimate, and that these diseases are either actual syphilitic processes caused by the lodgement and proliferation of the *Spirochaetae Pallida* in the involved tissues, or that they are the expression of a syphilitic toxemia acting on a predisposed or a weakened cerebrospinal axis, would seem to be borne out by the investigation of the fluid obtained by lumbar puncture from these cases.

Since lumbar puncture has become a routine procedure in these cases, an enormous amount of data has been accumulated, all tending to confirm one or the other of these views. In practically every case an examination of the cerebrospinal fluid discloses an increased lymphocytosis (pleocytosis), increased pro-

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\* From the Fourth Medical Division, Bellevue Hospital, New York City. For permission to publish these cases, and for valuable assistance and encouragement, the writer is indebted to the visiting physicians of the Division, Drs. Alexander Lambert, C. E. Nammack, and C. J. Strong; to his assistants on the house staff, and to Dr. Cyrus W. Field of the pathological staff for data on the Wasserman reactions.

tein content, and a strongly positive Wasserman reaction. The latter is present quite constantly, and is associated, in the great majority of cases, with the other abnormalities mentioned.

It is pertinent to remark here that the *Spirochaetae* have been found in over sixty per cent. of paretic brains by Noguchi and Moore,<sup>1</sup> and that they have succeeded in finding them in one of twelve cases of tabes. Since the publication of these reports, the organisms have been found in paretic brains in constantly increasing proportion.

Since this close relationship seems to have been definitely established, it becomes a matter for speculation why our usual means of combating syphilitic manifestations elsewhere in the body are of so little avail either in ameliorating the clinical picture or arresting the progress of either of these conditions. The results of antisyphilitic medication in general paresis have been uniformly disappointing, and in tabes the outlook has been but little better. It may be stated in a general way that the late nervous syphilitic lesions, in addition to the so-called parasyphilitic affections, have been far more resistant to the usual measures than any other manifestation of the infection.

The reasons for this are at least two-fold: (1) irreparable tract and nuclear degeneration may have occurred, which even after the repair by scar formation and neuroglia proliferation, remains uninfluenced, and (2) the structural elements of the central nervous system are peculiarly isolated from the general lymphatic circulation. Our medication is held back by the barrier interposed by the choroid plexuses, which secrete the cerebrospinal fluid, and the spaces which contain the cerebrospinal fluid are held to constitute the lymph system of the cerebrospinal axis.

It is with the second of these reasons that we are concerned; the first, of course, offering a hopeless outlook. The recent past has given us at least one brilliant example of how this circumstance may be minimized or even entirely circumvented. Flexner's serum against cerebrospinal meningitis, when applied topically, that is intra-durally, is immensely efficient; when injected into the circulation, however, it is practically without influence. To Swift and Ellis,<sup>2</sup> also of the Rockefeller Institute for Medical Research, must be given the credit for attempting to extend the procedure to the treatment of the parasyphilitic affections, they being the first to elaborate a safe and harmless technic

for the introduction of an antisyphilitic remedy into the sub-arachnoid space.

This agent is the patient's own blood serum, obtained soon after an intravenous injection of salvarsan. It was found by animal experimentation that such a serum had a definite, though not very powerful, antispироchoetal property. The reports of ten cases, eight of tabes and two of cerebrospinal syphilis, treated by this method, are contained in the original communication; all showed clinical improvement. In seven of the ten cases, the pathology of the cerebrospinal fluid was changed to normal or nearly so, including a change in the Wasserman reaction from strongly positive to negative. In the other three cases, each of which received a tremendous amount of therapy, the intensity of the Wasserman reaction was merely diminished, and a slight protein increase persisted.

Subsequent case reports from other sources, though mostly incomplete and lacking in details, are uniformly optimistic. At a meeting of the New York Neurological Society<sup>3</sup> on October 7, 1913, thirty-six cases of paresis, one of tabes, and two of cerebral syphilis were reported, from five sources. Two of the paretics died, three were unimproved, and twenty-six showed clinical improvement. In at least two of these twenty-six cases a complete remission is stated to have occurred. The case of tabes was improved. The cases of cerebral syphilis were markedly improved.

Hough<sup>4</sup> reports on thirty-four injections in three cases of general paresis and one of cerebral syphilis. The latter and two of the paretics showed well marked clinical improvement. The clinical pathology of the cerebrospinal fluid was favorably influenced.

McCaskey<sup>5</sup> reports on thirty injections in seven cases which he classifies as syphilis of the central nervous system. Most of these cases would come under the head of what have heretofore been classified as parasyphilitic diseases. All showed clinical improvement. The case reports, however, lack details of spinal fluid examinations.

In view of the universal interest that this procedure has aroused, it has seemed worth while to the writer to report the cases treated on his service while he was a house physician in

Bellevue Hospital. Seventy-two intraspinous injections, mainly in combination with salvarsan intravenously, were given to eighteen patients. The technic as published by Swift and Ellis was followed, and may be briefly stated.

The patients were given a full dose of salvarsan intravenously, except in the early period of the work, when neosalvarsan was used. One hour later about forty cubic centimeters of blood was withdrawn by means of glass syringes or a Lindemann cannula, and slanted in potato tubes. After standing three or four hours at room temperature, the tubes were placed in the refrigerator over night. Next morning the serum that had separated was poured into centrifuge tubes, the red cells thrown down, and the available serum, varying from twelve to eighteen cubic centimeters, was made up to thirty cubic centimeters with normal salt solution. The mixtures were then placed in the water bath for thirty minutes at fifty-six degrees centigrade. The intraspinous injections were made on this day, sufficient of the cerebrospinal fluid being withdrawn to bring the pressure down to thirty millimeters of water. The mixtures were injected by gravity, at body temperature. The spinal fluids thus obtained were examined for cytosis, either with the use of Kaplan's stain, or by dilution with an equal quantity of two per cent. acetic acid solution, and the preparation counted in an ordinary Tuerck ruled counting chamber. The globulin estimations were made after the method of Kaplan, which consists in heating five-tenths cubic centimeters of the fluid, adding three drops of a five per cent. solution of butyric acid in normal saline, heating again, and stratifying with five-tenths cubic centimeters of saturated ammonium sulphate solution. The thickness of the cheesy ring which formed at the junction of the fluids was indicated by —, x, xx, xxx. A Wasserman reaction was done on each spinal fluid, and most of the reactions were reported as to intensity, in units expressing the maximum amount of antigen necessary to completely inhibit hemolysis.

The case reports follow:

CASE I.—Male, 43. *Tabes Dorsalis*. Presenting symptoms, shooting pains in legs for last fifteen years, weakness and ataxia, and bladder weakness. Clinically, well-advanced *tabes*, barely ambulant.



Date.	Intravenous.	Intraspinous.	Cells.	Glob.	Wass.	Units.
July 25, '13.	.9 gm. Neosal.	Serum	60	x	xxx	
Aug. 7	.6 gm. Salvarsan	"	23	xx	xxx	17
21	.6 gm. "	"	6	—	xxx	15
Sept. 4	.6 gm. "	"	41	—	xxx	15
18	.6 gm. "	"	11	—	xx	12
Oct. 3	.6 gm. "	"	12	—	xx	12

This case presented marked improvement in the sensory disturbances the day following the first intraspinous injection. This improvement, except for a moderately severe reaction following the fourth injection, persisted during his stay in hospital. There were evidences of renal irritation following the first and second injections, with pains, the distribution of which was characteristic of renal colic. The X-ray findings were negative. The bladder condition greatly improved, this function being normal during the last month of observation. Gait and ataxia were uninfluenced.

CASE 2.—Male, 34. *Tabes Dorsalis*. Presenting symptom, retention of urine with dribbling. Girdle sensations about trunk, shooting pains and paresthesiae in legs. Duration, nine months. Gait moderately ataxic; Romberg's symptom and upper extremity ataxia present. Characteristic pupils and loss of knee jerks. Clinically, an early case of *tabes*.

Date.	Intravenous.	Intraspinous.	Cells.	Glob.	Wass.	Units.
Aug. 25, '13.	.9 gm. Neosal.					
31	.6 gm. Salvarsan	Serum	75	xx	xxx	18
Sept. 16	.6 gm. "	"	29	xx		
29	.6 gm. "	"	9	—		
Oct. 13	.6 gm. "	"	30	-x	xxx	15
30	.6 gm. "	"			xxx	15
Nov. 19	.6 gm. "	"				
Dec. 15	.6 gm. "	"	18	—	—	
28	.6 gm. "	"	12	—	xxx	18
Feb. 1, '14.	.6 gm. "	"	0	—	xxx	18

This patient showed almost immediate improvement in his gait. During the period of the first four injections, however, there was scant improvement clinically in other respects. The vesical condition had changed to one of partial incontinence. Subsequent to the fourth injection there was progressive improvement. At the last observation, the gait was normal, no Romberg or upper extremity ataxia could be elicited, and the sensory disturbances were negligible. Incontinence was replaced by a slight urinary frequency, with two urinations during the night.

CASE 3.—Male, 58. *Tabes Dorsalis*. Presenting symptoms, weakness and unsteadiness of legs, progressive during last five years. Girdle sensations, cramps in legs. Obstinate constipation and moderate urinary retention.

Marked ataxia in gait; Romberg's symptom and upper extremity ataxia present. Pupils, operative iritic coloboma on right side, rigid and contracted pupil on left. Knee jerks sluggish and unequal.

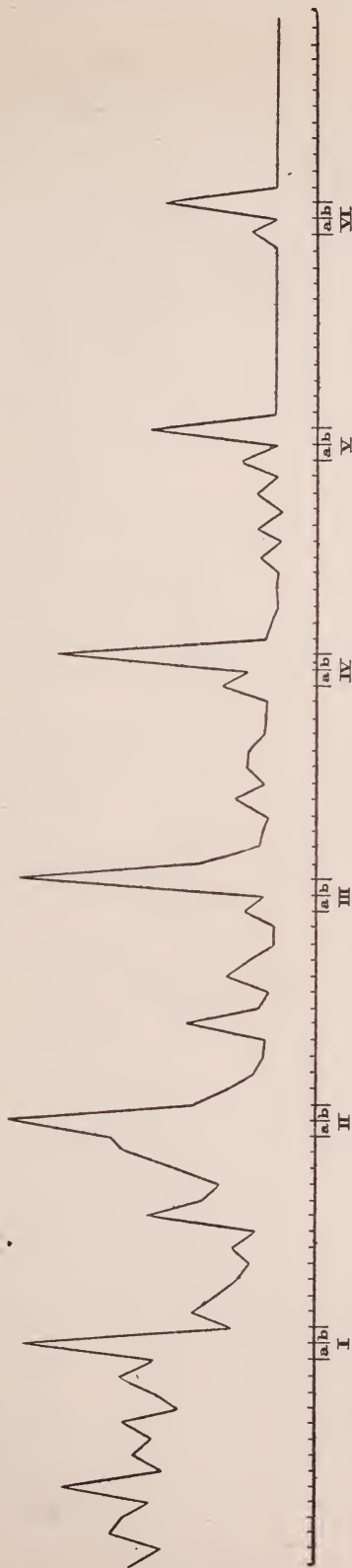
Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Aug. 5, '13.	.6 gm. Salvarsan	Serum	40	xx	xx	13
20	.6 gm. "	"	40	x	xx	12
Sept. 4	.6 gm. "	"	49	x	xx	12
18	.6 gm. "	"	27	xx	xx	12
Nov. 10	.6 gm. "	"	24	x		

This case presented progressive improvement following the institution of intraspinal therapy, although the patient experienced considerable discomfort for twenty-four hours following the injections. The ataxic manifestations improved markedly, the sensory disturbances were abolished, the urinary trouble was cured. The constipation was cured. A letter to the writer from this patient, dated March 4, 1914, states: "I am now feeling first class, appetite good, sleeping good. Bowels regular, no complaint on that score now. Brain seems to be sharper than before. No pains at all except when I arise after long sitting, and then only for a few moments. But there is a drag, as of a weight on my legs from abdomen to knee cap, and my left leg does not seem so good to lift me when walking as my right. I did not have any more injections made, for to tell you the truth, I am a bit of a coward."

CASE 4.—Male, 45. *Tabes Dorsalis*. Presenting symptoms, excruciating pains, shooting in character, and paresthesiae about trunk and down legs. The pains were so severe that they prevented sleep, and during the exacerbations he tossed about the bed and cried out in agony. Onset seven years ago. For the past two years he has been incontinent and practically bedridden. In the last few months the intervals between the crises have been getting shorter and the pains more severe. Examination shows a far advanced tabes, with great muscular hypotonia and a Charcot joint in the right thumb.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
July 14, '13.	.9 gm. Neosal.	Serum	26	xxx	xxx	18
27	.6 gm. Salvarsan	"	22	x	xxx	18
Aug. 17	.6 gm. "	"	26	x	xxx	17
29	.6 gm. "	"	20	—		
Sept. 15	.6 gm. "	"	27	—	xxx	18
30	.6 gm. "	"	10	—		

An attempt has been made in this case to construct a pain curve (see chart) that would express graphically the intensity of the crises. Of course, a perfectly definite interpretation of such a curve is impossible, but if we let the abscissa represent a comfortable state of the sensory apparatus, and the peaks in the curve an intensity of pain that may best



PAIN CURVE OF CASE 4

be compared with renal or gall stone colic, we may arrive at a fairly satisfactory interpretation.

The intensity of the crises during the two weeks after admission and prior to the institution of intraspinal therapy was such as to make any ameliorative procedure desirable, no matter how radical or dangerous. Foerster's multiple root resection might even have been justified.

The effect of the treatment was a definite, progressive amelioration of the pains. The reactions following the various injections are shown on the chart, a representing the intravenous, and b the intraspinal injections. The time is marked in days. On October 13th, the date of discharge, the physical condition was unchanged, but the sensory disturbances were markedly benefited.

CASE 5.—Male, 46. *Tabes Dorsalis*. Presenting symptom, severe and persistent vomiting. Has been able to retain but little nourishment, and has lost weight. Examination disclosed a fully developed *tabes*. The spinal fluid contained sixty cells, the protein reaction was xxx, and the Wasserman reaction in the spinal fluid was xx. The vomiting in this case seems to have been in the nature of a pneumogastric crisis, which may or may not be accompanied by pain. In this case there was practically no pain.

After one combined intravenous and intraspinal injection, there was decided improvement in the gastric condition, and in two days he was eating the full hospital diet. Passed from observation on the fourth day.

CASE 6.—Male, 36. *Tabes Dorsalis*. Presenting symptom, shooting pains in legs of six months' duration. Chancre fourteen years previously. Unsteadiness of legs and vesical sphincteric weakness. Clinically, well advanced *tabes*.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Nov. 29, '13.		Serum	120	x		
Dec. 6		"	38	-x		
16		"	56	-	xxx	18
23	.6 gm. Salvarsan	"	51	-	xxx	14

The injections intraspinally did not control the pains in this case, and the patient passed from observation not materially improved.

CASE 7.—Male, 40. *Tabes Dorsalis*. Presenting symptom, disability in right knee, left leg having been amputated for injury. Examination shows a Charcot joint, with Argyll Robertson pupils, and muscular ataxia.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Aug. 18, '13.	Lumbar Puncture		6	-	xxx	17
22	.6 gm. Salvarsan	Serum	4	-	xxx	
Sept. 4	.6 gm.	"	2	-		
18	.6 gm.	"	2	-	xx	12



There was no improvement except in the diminished intensity of the Wasserman reaction in the spinal fluid.

CASE 8.—Male, 50. *Tabes Dorsalis*. Presenting symptom, disability and pain in left knee of three years' duration. Incontinent of urine and moderately deaf. Examination shows a fully developed *tabes* with Charcot's arthropathy in the left knee.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Sept. 16, '13.		Serum	51	x	xx	12
Oct. 1		"				
24	.6 gm. Salvarsan	"	20	—		
Nov. 18	.6 gm.	"	27	—		
Dec. 2	.6 gm.	"	16	—		

Discharged on December 9th, unimproved,

CASE 9.—Female, 49. *Tabes Dorsalis*. Presenting symptom, disability in both knees. Clinically a *tabes* with Charcot's arthropathies in both knees.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Nov. 6, '13.	Lumbar Puncture		20	—	xxx	18
17	.6 gm. Salvarsan	Serum	14	—		
28	.6 gm.	"	16	—		
Dec. 9	.6 gm.	"	7	—	xxx	15
19	.6 gm.	"	18	—		

Unimproved at last observation.

CASE 10.—Female, 50. *General Paresis*. Presenting symptoms, pain and paresthesiae in left side of body, with inability to get about. An investigation into the history disclosed that there had been a recent change in disposition, with variable moods; sometimes carefree and elated, with delusions of grandeur; at others, depressed, with unsystematized delusions of persecution. Memory deficient, speech slightly slurred. On attempting to walk, the patient falls to the left; Romberg's symptom is marked. Pupils contracted and sluggish. Elbow and wrist jerks absent, knee jerks increased, Babinski on left. Marked dulling of pain and temperature sense in lower extremities.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
July 28, '13.	.6 gm. Salvarsan	Serum	25	xx	xxx	14
Aug. 12	.6 gm.	"			x	6
27	.6 gm.	"	4	x	x	6
Sept. 9	.6 gm.	"	11	x		

The focal symptoms improved immediately after the first injection. On September 24th, she was transferred to the psychopathic service on account of her mental condition, which showed but little improvement. The hemi-paresis had disappeared, there was no ataxia in the gait, Romberg's and Babinski's symptoms were absent.

CASE 11.—Male, 50, colored. General Paresis. Presenting symptoms, coma and convulsions. The spinal fluid findings pointed to general paresis, which diagnosis was substantiated four days later, when he regained consciousness.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Aug. 21, '13.		Serum	49	xxx	xxx	
27		"	80	xxx		
Sept. 5		"	Fluid bloody			

At this time the patient was ambulant, but his mental condition required his transfer to the psychopathic service.

CASE 12.—Male, 55. General Paresis. Presenting symptom, delirium. Investigation of the previous history from relatives disclosed that for six months there had been gradual mental deterioration. Clinically, advanced general paresis. Bedridden, incontinent, disturbed. Spinal fluid, 30 cells, xx globulin, xx Wasserman. Temporary improvement after one intraspinal injection. Sphincteric control regained. During second week after injection, he relapsed into the former state, necessitating transfer to the psychopathic wards.

CASE 13.—Male, 45, colored. General Paresis. Presenting symptom, retention of urine. Disease picture of two years' duration. Spinal fluid, 90 cells, xxx globulin, xxx Wasserman.

Marked prostration followed the intravenous injection on September 8th, and after the intraspinal injection on the next day, there was a progressive decline. Incontinence of urine and feces supervened, and the patient died on September 26th.

CASE 14.—Male, 35. Erb's Syphilitic Spinal Paralysis. Presenting symptom, stiffness and disability of both legs, of six weeks' duration. Denies syphilis, but has had a course of mercurial injections during his present illness. Clinically, a marked spastic paraplegia, bedridden. Sluggish pupils, moderate urinary retention.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
July 15, '13.	.9 gm. Neosal.		16	—	—	
24	.9 gm. "	Serum				
Aug. 9	.6 gm. Salvarsan	"	11	xx	—	
23	.6 gm. "	"				
Sept. 6	.6 gm. "	"	14	—	—	
19	.6 gm. "	"	14	—	—	

In spite of the negative serologic reactions, this case was considered to be luetic. There was but slight improvement during the period of the first three injections, but after that there was progressive improvement. At the time of discharge in January, he was getting about with the aid of crutches, and was greatly pleased with his improvement.

CASE 15.—Male. 45. Erb's Syphilitic Spinal Paralysis. Presenting symptoms, stiffness and disability of both legs. Duration, seven months, beginning with ataxia of both upper and lower extremities, urinary retention and deafness. Clinically, a marked spastic paraplegia, bedridden.

Date.	Intravenous.	Intraspinous.	Cells.	Glob.	Wass.	Units.
Nov. 20, '13.	.6 gm. Salvarsan	Serum	71	xx	xxx	15
28	.6 gm.	"	24	xx	xxx	
Dec. 5	.6 gm.	"	26	xx	xxx	18
15	.6 gm.	"	44	-x	xxx	18
23	.6 gm.	"	42	-x	xx	12

There was well marked improvement in the spasticity and bladder disturbance, the deafness was slightly improved. At the last observation. the patient was getting about in a wheel chair. with a fair prospect of soon becoming ambulant.

CASE 16.—Female, 39. Erb's Syphilitic Spinal Paralysis. Presenting symptom, weakness of legs of nine months' duration. Headache, vomiting, girdle sensations, and unsteadiness. Practically bedridden, marked spasticity in legs. Pupils sluggish.

Date.	Intravenous.	Intraspinous.	Cells.	Glob.	Wass.	Units.
Oct. 21, '13.	.6 gm. Salvarsan	Serum	17	-	xxx	
31		"	12	-		
Nov. 17	.6 gm.	"				
28	.6 gm.	"	12			
Dec. 9	.6 gm.	"	9	-	xxx	
19	.6 gm.	"	11	-		

There was progressive improvement in the gait and station with the institution of intraspinous therapy. Headache disappeared. At time of discharge her gait was practically normal.

CASE 17.—Male, 45, colored. Cerebral Syphilis. Presenting symptom, headache of three months' duration. Chancre twenty years previously, and has had no treatment. Four days before admission became incontinent of urine and feces. Examination shows a stupid, indifferent, drowsy and contented colored man, with unequal, sluggish pupils, and exaggerated knee jerks. The assistant resident alienist, Dr. M. J. Karpas, was unwilling to make a differential diagnosis between cerebral syphilitic meningitis and general paresis.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Oct. 29, '13.	Lumbar Puncture		133	xx	xxx	18
Nov. 2	.6 gm. Salvarsan					
6	Lumbar Puncture		130	x	xxx	
10	.6 gm. Salvarsan					
13	Lumbar Puncture		76	x		
17	.6 gm. Salvarsan	Serum				
24	.6 gm.	"	150	xxx		
Dec. 2	.6 gm.	"	175	xx		
17	Lumbar Puncture		72	-	xxx	15
23	"	"	58	-	xxx	15

The improvement in this case was not remarkable, although he has become ambulant and has regained control over his bowel and bladder. His mental state also showed a moderate improvement.

CASE 18.—Male, 45. Cerebrospinal Syphilitic Meningitis. Presenting symptom, pain in upper abdomen and around costal border, of three weeks' duration. Chancre seven years previously. Constipation, weakness, and diplopia. Gait and station normal, slight ataxia in left arm. Unequal, sluggish pupils; knee jerks unequal, right sluggish, left increased.

Date.	Intravenous.	Intraspinal.	Cells.	Glob.	Wass.	Units.
Aug. 6, '13.	Lumbar Puncture		178	xxx	xxx	
Sept. 10	.6 gm. Salvarsan	Serum	879	xxx	xxx	15
24	.6 gm.	"	130	xxx		
Oct. 9	.6 gm.	"	70	x	xxx	15

There was immediate improvement after the institution of treatment, and at the time of last observation, he considered himself cured, and did not apply for readmission.

#### SUMMARY AND CONCLUSIONS.

In summarizing these cases it may be desirable to consider separately the clinical and the laboratory aspects, also to exclude as inconclusive such of the cases as had but one injection.

Clinically, of the eight cases of tabes, four were improved (Cases 1 to 4), four were unimproved. Of the latter, three had Charcot's joint lesions, and were perhaps of the most unsatisfactory type to treat; the fourth, had there been opportunity for further observation and treatment, might well have responded to subsequent injections. In the cases of general paresis, the focal symptoms yielded quite promptly to treatment, while the mental condition was but little influenced. The spastic paraplegias presented the most definite clinical improvement, every case being favorably influenced.



From the laboratory standpoint, changes in the three reactions in the spinal fluid: cytois, protein content, and Wasserman reaction, in contradistinction to the favorable outcome in the large majority of the reported cases, were more resistant to treatment, and did not keep pace with the clinical improvement. In only one case (2) did a positive Wasserman reaction become even temporarily negative. Among the other cases, there were several in which one or more of the three reactions were not pathological, or where subsequent comparisons could not be made for various reasons. Excluding these, we have twelve cases (1, 2, 3, 4, 6, 7, 9, 10, 15, 16, 17, 18) that had strongly positive Wasserman reactions; of these, one has already been mentioned (Case 2). In four the reaction was diminished in intensity (1, 6, 10, 15); in seven it was practically uninfluenced. Of thirteen cases the cytois was greatly diminished in six, and only moderately diminished or uninfluenced in seven. Of ten cases in which there was an increased protein content, this was reduced to normal in six, and diminished in four.

A study of the progress of these cases, all of them late manifestations of syphilis in which, at the time of institution of treatment, more or less nuclear and tract degeneration had undoubtedly occurred, leads to several interesting and pertinent questions. Among these questions are the following:

I. What are the possibilities of an earlier diagnosis of the parasyphilitic affections? The early clinical manifestations may be extremely indefinite, and may, on cursory examination, escape recognition for years. The occurrence of headache, pains in various parts of the body, pupillary anomalies, bladder weakness, or loss of sexual power, should put us on our guard. Where any doubt exists, lumbar puncture and the four reactions should be resorted to if the development of a full-fledged disease picture is to be anticipated and further progress arrested.

II. Are the parasyphilitic affections usually preceded by an early involvement of the central nervous system in the secondary or early tertiary stage of the syphilitic infection? Nonne<sup>6</sup> in his book on "Syphilis and the Central Nervous System" states, page 133: "It is extremely important to remember that generally ophthalmoplegia interna, as well as the combination with it of myosis, is a precursor of severe post-syphilitic disease

of the brain and spinal cord, and that it may be present a long time before the outbreak of tabes or paresis" . . . "That such cases are cases of tabes abortiva or imperfecta should be recognized by every one. One must certainly admit that isolated loss of pupil reflexes may precede many long years the appearance of a well-developed tabes." He cites four cases which presented this sole symptom for a number of years, up to twelve, each of which later developed tabes or general paresis.

According to Alexander, quoted by Nonne, page 133, ophthalmoplegia interna is the most frequent manifestation of syphilis on the motor apparatus of the eye. Naunyn, also quoted by Nonne, page 50, states that specific disease of the central nervous system appears most frequently in the first year after the infection, and that forty-eight per cent. of all specific nervous diseases occur inside the first three years. Reports of exceedingly early nervous involvement, even co-existent with the primary lesion, occur frequently in the recent literature. One of the Bellevue Hospital cases on the writer's service, with a chancre of the lip of two weeks' duration was found to have a markedly increased protein content in the spinal fluid. In a paper on "The Cerebrospinal Fluid in Syphilis" Ellis and Swift<sup>7</sup> found abnormalities in quite a number of spinal fluids from cases of secondary syphilis. This paper contains a resumé of the findings of various observers on routine lumbar puncture in secondary syphilis, which tends to show that more than half the fluids from such cases are abnormal.

In view of these facts it seems reasonable to suppose that a large proportion of parasyphilitic conditions are preceded by early syphilitic disease of the nervous system.

III. If the preceding questions can be answered in the affirmative, is it not desirable, nay imperative, that we endeavor to eradicate every manifestation of early nervous syphilis, both from the clinical and from the laboratory standpoints? This question contains its own answer. From the view-point of the patient the desirability of such a procedure would be apparent only to the more intelligent; the others must be convinced, and here the conscientious and patient physician will find his task to hand.

It is precisely in this latter class of cases, when our usual methods of treatment may prove insufficient, that intraspinal

therapy may find its largest field of usefulness: in the prophylaxis, rather than in the treatment, of fully developed, late syphilitic nervous disease.

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## SARATOGA AND ITS MINERAL WATERS.

*Address delivered to the Albany County Medical Society January 21, 1914, and followed by exhibition of illustrative lantern slides.*

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The plateau on which Saratoga stands, between the foothills of the Adirondack mountains on the west and the Hudson river on the east, was the Kayaderosseras, the hunting ground of the Iroquois Indians, and the present county of Saratoga was probably the special resort of the Mohawk tribe. The word Saraghtoghie is said to signify "place of salt," and it is supposed that deer-licks, existing at certain points where the mineral waters reached the surface, attracted the game animals in the olden time.

It was probably densely wooded with a growth of white pines, and the Kayaderosseras river as well as Fish creek and the lake undoubtedly teemed with fish.

In 1684 Peter Philip Schuyler and other Albany citizens purchased from the Indians their "Hillside Country of the Great River," finally deeded to the white man over the signatures of the Sachems of several tribes, in 1704. This transfer was ratified in 1708 by Queen Anne, who granted a patent of land to the white purchasers. In 1772 the patents of Saraghtoga and Kayaderosseras were united into one district to which the name Saratoga was given.

The first white man to visit a Saratoga spring was Sir William Johnson, Baronet, who bore a commission from his Majesty,

George II., of England, and who inflicted a severe defeat upon the French army under Baron Dieskau, at the battle of Lake George, in 1755.

Ill and disabled by an old gun-shot wound, Sir William was conveyed in 1767 by friendly Indians, partly by boat, partly on a litter placed on Indian shoulders, from Johnstown to Schenectady, thence to Ballston, and thence through the forest to the Kayaderosseras river, and finally to the High Rock spring, the "Medicine Waters of the Great Spirit." Obeisance was made to the Manitou of the spring, and then "Warraghiyaghy," the White Brother of the Mohawks, partook of the water of the healing stream as it spouted through the orifice of the High Rock cone, and bathed in its waters. The old cone stands to-day where Sir William saw it, now in the little High Rock Park, protected by a pavilion, and against the background of the limestone scarp of the geologic "fault." Military duty called him away before his recovery, but he was so much benefitted as to be able to walk part of the way through the forest to Schenectady, after taking the Saratoga Cure. Sir William shortly wrote to General Philip Schuyler concerning the healing waters of the High Rock Spring, and this report is supposed to have actuated General Schuyler to cut a roadway to the spring through twelve miles of forest in 1783, and to erect a shelter for himself and his family while for several weeks they used the water. Ten years earlier a clearing had been made and a cabin built by a hardy adventurer, whose camp had long since been destroyed. But from the time of General Schuyler's trip thither, the locality was visited by many celebrated people, including General George Washington, Alexander Hamilton, George Clinton, Colonel Humphrey, Colonel Fish and others. From that day to this, Saratoga has been a resort more or less popular, reaching the position of perhaps the best known and most fashionable spot in America, about a hundred years after Sir William set the fashion.

No resort in this country has entertained so many distinguished literary, scientific, military or diplomatic celebrities or statesmen. Of the presidents, Harrison, Madison, Tyler, Van Buren, Fillmore, Buchanan may be mentioned of the *ante bellum* guests, while Daniel Webster, Stephen A. Douglas, Gen. Winfield Scott, Daniel D. Tompkins, DeWitt Clinton, Silas Wright, Wm. L.



Marcy, Chancellor Kent, Washington Irving, Fenimore Cooper, Gerritt Smith, Gottschalk, Joseph Bonaparte, ex-king of Spain, and many other illustrious people were among the guests at the Spa a generation ago, when its tide of gaiety reached the high water mark.

The history of its gaiety, its gambling and its racing is well known. The desultory and unscientific use of the waters led to nothing further, and a level of mediocrity was reached, judging the matter from a physician's standpoint. During the years the springs were most visited, their waters were employed more because of certain established fashions than with an intelligent idea of the proper use of specially selected waters to meet definite diseases or conditions. And this is not strange, in view of the conflicting claims made by the many rival owners of separate springs, each believing that his own spring was medicinally the best. Damaging reports were circulated; one spring water of the highest value was charged with causing the death of certain visitors; dynamite was used through the eager desire of an owner to equal or outstrip his neighbor, and thus unmerited disrepute resulted to the whole Saratoga proposition.

About twenty years ago a change in conditions was occasioned by the commencement of pumping of the waters to secure and sell the carbonic acid gas which has always supersaturated the mineral waters. Scores of bores and artesian wells were drilled, veins were reached from which dry gas escaped from the rock crevices, or water was pumped out by the million gallons, and wasted after the separation from it of the valuable gas, for which there was a ready market, at a high price. The level of the mineral water all through the region lowered as the pumping progressed, until wells ceased to flow and many springs seemed exhausted.

Action of the Saratogians, led by the late Spencer Trask, the late Frank H. Hathorn and other prominent citizens, resulted in a law that prohibited the pumping, and the renaissance of Saratoga began. An act of legislature in 1909, introduced by Senator Edgar T. Brackett, providing for the purchase by the State of lands, mineral rights and mineral springs, under the direction of a Commission of three members, was signed by Governor Charles E. Hughes, who appointed Spencer Trask, the banker and philanthropist, the Hon. Edward M. Shepard and

Frank N. Godfrey, then Master of the State Grange, as such Commissioners. Thus began the State control, comparable with the method of conservation of mineral waters in European countries for generations, our old world cousins having developed similar properties years ago, by invoking governmental ownership, for the enlargement of public health.

Later this Commission was succeeded by the present board, namely, Hon. George Foster Peabody, chairman, General Benjamin F. Tracy, and Senator Frank N. Godfrey, who serve without remuneration and represent the highest type of public officials. Irving G. Rouillard is the urbane secretary, and Frederick Edwards is the efficient engineer. Commissioner Peabody has thrown himself with great vigor and ardor into the work, even buying a residence in Saratoga that he might devote a very large share of his time to this important and difficult work, which demands so much judgment, tact and sagacity. For years this commission has labored here with a single-hearted devotion to the cause of the people's health, the enterprise fortunately being inseparably connected with securing a large pecuniary return to the State.

While the underlying aim and incentive of the development of this health resort are the prevention of disease and the relief of the sick and suffering, it is an undoubted fact that a properly constructed bath house and drink hall well equipped and conducted will result in a large and constant income to the State, as at Vichy, France, where the establishment pays sixteen per cent dividends to the stockholders, after paying the government about \$337,000 annually, also paying rent, subsidizing the city and setting aside liberal funds; or at Nauheim, Germany, where the bath management pays an annual tax of \$2,500, also three and one-half per cent, on a loan of \$2,000,000. and also makes an annual contribution to the sinking fund of \$375,000; or at Bad Kissingen, where the Bavarian government leases the establishment to a company for \$35,000 annual rental, and the company smilingly and without reluctance cleared a profit of \$372,000 in 1912—more than a thousand per cent.

Our Saratoga waters resemble in many respects the fewer springs at Kissingen, and the range of application of these mineral agencies is very similar in the two resorts.

The amount of spring water available may be appreciated

from a consideration of the fact that the Champion Spring No. 3 spouted 142 gallons a minutes, or 202,480 gallons a day, when its neighbor Champion No. 2, was sealed. The gas (carbonic oxide) has always been present in very large quantities. From the Adams Spring alone a total of about 1,200 pounds a day was extracted by the General Gas Company and sold for \$5,000 a year. The Island Spring produced a revenue of \$3,000 a year for a long period. All the waters are supersaturated with carbonic oxide.

For practical purposes, the mineral waters may be classified as follows:

**SALINE-LAXATIVE**, including Hathorn No. 1, Hathorn No. 2, Hathorn No. 3, Ditch well No. 2, Island, Shonts No. 3, Coesa, Peerless, Emperor, and Adams.

**ALKALINE-SALINE**, including Geyser, Pump Well No. 4, Minnonebe, New Shonts, Clark No. 1, and Clark No. 2.

**FERRUGINOUS OR CHALYBEATE** including Columbian, Flat Well No. 2, Old Red, New Red and Magnetic. Others are also mildly Chalybeate, and many waters fall into two of these classes. Of special value are the table waters, Geyser and Minno-nebe. The latter resembles the Grande Grille of Vichy, and since it contains about one-half as many bicarbonates, it is suitable for free use during meals.

Prescribed as chosen for individual cases the waters are variously indicated for use in gastro-intestinal disorders, gout, rheumatism, arthritis and anaemia. Some are admirably adapted for use in incipient kidney disorders, in neurasthenia, general fermentation from increase of acidity in the digestive tract, certain skin diseases, and in the elimination of various poisons from the body and the removal of certain exudations due to disease.

Saratoga has also a spring which resembles the Spring No. 12 at Nauheim, Germany, since it contains the same calcic and magnesian salts. It is therefore suitable for use in giving the Nauheim system of baths for incipient arterio-sclerosis, certain other circulatory disorders and especially for some forms of heart disease. Our chief field of activity, however, will be in the domain of disorders of the digestive tract and in diseases producing tissue change, and in the reduction of obesity.

All Saratoga springs are radio-active. The officials of the laboratory of the bureau of mines, Washington, report that the



radio-activity is due to dissolved radium salts, and not merely to absorbed radium emanations. Therefore they contain a permanent agent which will produce active emanations indefinitely.

The reservation commission obtained the presence of Dr. Paul Haertl, the director of the chemical and balneological laboratory at Bad-Kissingen, Germany, who studied the Saratoga Springs situation thoroughly, and imparted many valuable points concerning regulation and control of spouting wells, proper materials to use in tubing and in delivering carbonic oxide waters, and described his method of transporting these waters for a long distance without loss of gas. Dr. Haertl said that the springs at Saratoga are unexcelled in the world, and he is a competent authority upon the subject. His advice confirmed the conviction that the State must proceed at once to the erection of a large bath house and a central drink hall in the center of the village of Saratoga, accessible to the hotels, as well as to the park and to such diversions as are provided in a health resort.

Supplementing the work of Frederick Edwards, C. E. the engineer in charge since the organization of the commission's small staff, Professor Charles G. Anthony of Union college, and consulting engineer, was sent to several German and English spas, to obtain exact information concerning mechanical and technical matters connected with installation of equipment, and the commission is now in possession of definite and sufficient information to proceed without delay in this great conservation movement, when the funds are provided by the Legislature.

Much space and many pictures would be necessary were one adequately to describe the beautiful Geyser Park of 250 acres, a tract acquired by the reservation in which development has begun for the use of patients and guests, notable for the picturesque Coesa Creek which passes through it for a mile, and for the spouting springs appearing here and there. Here will be built graded paths and walks for the administration of the Terrain Kur, or Oertel's hill-climbing exercises. One also must mention the pine promenade of 6,000 feet, leading from South Broadway to the Dondaroga Gate, at "The Vale of Springs," one of the entrances to this attractive park. This promenade is bordered by four rows of young pine trees and leads past beautiful pine groves which will afford resting places for the



invalid. It is designed for pedestrians only, or those in wheel chairs, and will not be a highway for vehicles.

It is expected that deep interest will be taken by the entire medical profession of the State in the erection of this health resort so easily accessible from all points. If the treatment here is as skillful and the equipment and facilities are as complete as those in the English and continental spas, many thousand Americans will prefer to go to Saratoga for their cure rather than undergo the expense and the fatigue of an ocean trip, subject themselves to the vicissitudes of an unknown climate, and dwell for a considerable period in a country whose language they cannot speak. More than 7,300 physicians have been circularized throughout the State in order that they may be informed of the beginnings at Saratoga, as well as of the vast enterprise projected.

The commission plans, therefore, to erect a large bath house with administration building and power house, and also a central drink hall, to which will be conducted all the available drinking waters in the village proper and in the Geyser district, so that the invalid and the luxurious will not be obliged to go to the source of the various springs whose waters are prescribed for them. The central drink hall, moreover, will permit of the service of drinking waters either hot, warm or cold, as prescribed by the physician, and will tend to obtain obedience to the physician's order to drink the water slowly while promenading about the pavilions or in the park.

The Commission projects baths of low cost for those of moderate means, sumptuous baths for those who desire them, and free baths for those unable to pay, while free service of drinking waters at their source will be maintained by the State.

With beautifully shaded streets, a charming village park of ten acres—Congress Park—and pure air from the foothills of the Adirondacks uncontaminated with smoke; with fascinating cloud effects and brilliant skies, with excellent roads, with scores upon scores of attractive cottages, sufficient shops and bazars, places of amusement and libraries, Saratoga needs only the equipment of bath house and drink hall to enable it to take its place as the Spa of America, with its myriad of springs, unsurpassed in their content of carbonic oxide, and carrying definitely valuable medicinal constituents, blended by the alchemy of nature.

## BENDER HYGIENIC LABORATORY.

## REPORT OF THE DIRECTOR FOR THE YEAR ENDING

AUGUST 31, 1913.

By HARRY S. BERNSTEIN, M. D.

*To the Trustees of the Bender Hygienic Laboratory:*

Gentlemen.—I have the honor to submit to you my report for the year ending August 31, 1913.

## I. ORGANIZATION

The personnel of the staff has witnessed only one change during the past year. Dr. Clinton P. McCord served as first assistant from September 1, 1912 to March 19, 1913. He then resigned to become Health Director of the public schools of the city of Albany. The office of Health Director was newly created; and to it Dr. McCord brought a wide clinical experience, supplemented by laboratory training. Dr. Wardner D. Ayer was accordingly promoted to the position of first assistant and Dr. Walter C. Fox to that of second assistant. Dr. Arthur H. Stein (Syracuse University, B. S., 1909; Albany Medical College, M. D., 1912) succeeded Dr. Fox as the pathological house-officer of the Albany Hospital. Dr. John Southwell continued as part-time assistant.

## II. THE WORK OF THE LABORATORY.

The work of the laboratory in the routine examination of specimens is summarized in the following tables:

TABLE I.  
ROUTINE EXAMINATIONS MADE AT THE BENDER HYGIENIC LABORATORY,  
FROM SEPTEMBER 1, 1912, TO AUGUST 31, 1913

	Albany Hos- pital	St. Peter's Hos- pital	Home- opathic Hos- pital	Child's Hos- pital and St. Mar- garet's House	State De- part- ment of Health	City De- part- ment of Health	All other Source s	Total
General Bacterio- logical and Clin- ico-pathological examinations...	*2,845	273	131	60	1,290	3,992	1,475	10,066
Surgical specimens	1,375	520	123	36	.....	.....	224	2,278
Post-mortem ex- aminations.....	26	3	6	.....	.....	.....	39	80
Total.....	4,246	796	260	102	1,290	3,992	1,738	12,425

Corrected total number of specimens examined.....10,361

\*2063 should be subtracted from the bacteriological total for the Albany Hospital. This figure represents the diagnostic work, chiefly for Pavilion G, which is included under City Health work.

TABLE II.  
ROUTINE EXAMINATIONS FOR THE PAST FIVE YEARS

	1908-09	1909-10	1910-11	1911-12	1912-13
General bacteriological and clinico-pathological examinations.....	5,906	5,585	5,051	14,159	8,003
Surgical specimens.....	1,722	1,993	2,316	2,317	2,278
Post-mortem examinations..	139	103	101	70	80

TABLE III.  
SPECIAL TESTS (INCLUDED IN TABLE II) PERFORMED DURING THE PAST TWO YEARS

	1911-12	1912-13 ---
Inoculation tests.....	64	23
Wassermann-Noguchi tests.....	412	621
Blood cultures.....	29	33
Preparation of vaccine.....	15	45
Milk examinations.....	25	137
Total.....	545	859

The total number of bacteriological and clinico-pathological examinations has fallen below that of the preceding year. This is accounted for by the 1,290 examinations made for the State Department of Health as compared with 9,274 performed in 1911-1912. The contract which had been in force between the State Department of Health and this laboratory for several years ceased to operate January 1, 1913. It is noteworthy, however, that the examinations for other institutions and private individuals, as indicated in Table I, has shown a marked increase. This is particularly true of the special tests (Table III) which demand a great amount of time and labor.

Milk examinations have been regularly made for the Milk Commission of the Medical Society of the County of Albany and for the Woman's Club of Albany. Your director has served as Secretary to the Milk Commission. Acknowledgment of the receipt of twenty-five dollars from the Woman's Club is gratefully made. Due to the high-minded and untiring efforts of this organization, inspection of the city milk supply by the municipal authorities has been effected.

The pork supply of the Albany Hospital has also been regularly examined to exclude trichinous infection.

The large number of surgical specimens affords unexcelled opportunities for the study of surgical pathology. These opportunities would be enhanced to a marked degree, if only minimal clinical data were furnished with the specimens. To this end, the co-operation of the attending surgeons and house-staffs of the various hospitals has long been sought and continues to be a hope of the future.

### III. TEACHING

The following courses have been given at the laboratory to the undergraduates of the Albany Medical College during the academic year 1912-1913:

Courses.	Hours per week.	
1. Histology and Embryology (first year students) .....	6½	By Drs. McCord, Ayer, Fox, Southwell, Jenkins, Hacker, and Baker.
2. Bacteriology and Pathology (second year students).....	9½	By Drs. Bernstein, McCord, Ayer, Fox, Southwell, and Hacker.
3. Anatomy and Pathology of the Nervous System (second year students) .....	2½	By Dr. Archambault.
4. Surgical Pathology (second year students—second half-year) .....	1	By Dr. Beilby.
5. Surgical Pathology (third year students—first half-year) ....	1	By Dr. Draper.
6. Clinical Pathology (third year students—second half-year)..	1	By Drs. Bernstein and Ayer.
7. Clinical Microscopy (third year students) .....	2	By Dr. Hawn.
8. Physiology (first year students—first half-year).....	2½	By Messrs. Keeton and Myers.
9. Experimental Physiology (second year students—second half-year) .....	6	By Messrs. Keeton, Myers, and Dr. Myers.
10. Experimental Pharmacology (second year students).....	2	By Mr. Myers.

Courses 1 to 7 inclusive have come under the control of the



director. Accordingly, provision for material, apparatus, and reagents has been made by him. Courses 8, 9, and 10 have been conducted by appointees of the College.

At no time in the history of your institution, has the laboratory and its staff been required to render more service to the students of the Albany Medical College. This has been necessitated by the gradual raising of the standards of the College. Moreover, there has also been an increase in the requirements for admission. These requirements will become effective with the session of 1914. The number of students, however, in the first three classes to obtain laboratory instruction has thus far shown a slight increase. This is evident from the following table:

TABLE IV.  
NUMBER OF STUDENTS OF PAST THREE YEARS

	1910-11	1911-12	1912-13
First year.....	69	82	78
Second year.....	53	50	62
Third year.....	43	47	48
Total.....	165	179	188

The change in the character of the course in Physiology, given to second year students, was most welcome. This was rendered possible by the appointment of Messrs. Keeton and Myers as full time members of the teaching staff. The class was divided into small groups. Each group performed a series of experiments which were carefully outlined. The course was a practical one and supplemented the didactic teaching. It enabled the student not only to familiarize himself with the varied experimental technique, but also to develop a keener sense of observation and criticism. Similarly in the course in Experimental Pharmacology, the action of drugs on living animals was demonstrated. Consequently, the therapeutic application of drugs became more comprehensible.

In inaugurating and conducting the two courses, above mentioned, Messrs. Keeton and Myers have rendered a distinct service to the College. Obviously, both have worked under trying conditions. The Bender Laboratory, designed for histological and pathological work does not possess the facilities which

a well equipped physiological laboratory demands. The need for the latter is most urgent and one which the friends of the College must be encouraged to help meet. Messrs. Keeton and Myers have also been handicapped by the lack of sufficient assistants. Assurance must be given them not only of the continuous services of a competent laboratory helper, but also of trained medical assistance.

The course in pathology has been conducted according to well established methods. Owing to an increase in the length of the college curriculum, the study of parasitology has been more complete. Instruction to small sections, into which the class was divided, was made effective by the adequate number of assistants. Our thanks are especially due Dr. C. W. Louis Hacker for devoting so liberally of his time to teaching.

Unfortunately, the course in pathology has suffered considerably because of the few post-mortem examinations which the students have been enabled to witness. Thirty-nine of the eighty post-mortem examinations performed during the past year, were at private homes. The majority of those, performed at the hospitals, have come at times when it was inopportune for a small section of the class to attend. The amphitheatre of the laboratory is the only place which provides facilities for the entire class of students. Rarely, however, has it been utilized.

It is noteworthy that the standards<sup>1</sup> of the Council on Medical Education of the American Medical Association demand that a medical college shall offer "facilities for at least thirty autopsies during each college session (for senior classes of 100 students or less)." The maximum number witnessed by any one student during the past academic year has been four. The council, representing the national body of physicians, has been instrumental in setting high standards among the medical colleges of the United States. The interests of the public health demand the best possible training from those who are to administer to it. Therefore, the opportunities which any public office controls—as that of the coroner—ought to be made subservient to those same public interests. Accordingly, a movement was begun to establish a public morgue at the Bender Laboratory. The purpose was three-fold: firstly, to abolish the present primitive conditions under which medico-legal examinations are made

<sup>1</sup> *Journal A. M. A.*, Vol. LIX, No. 8, August 24, 1912, p. 638.

in Albany; secondly, to provide necessary means to the coroners' physicians for the control examination of gross lesions by histological, bacteriological, and chemical methods; and thirdly, to enable the students of the Albany Medical College to witness the post-mortem examinations.

Two public hearings on the proposed project were held before a committee of the Common Council of the City of Albany. At these hearings, the high ideals of the medical profession were grossly misinterpreted. The foes of civic progress defeated a movement which had as its object the determination of the truth, and the education of medical men—graduate and undergraduate. The co-operation of those interested in higher education and in efficient public service must again be enlisted; and the plan adopted at Syracuse might well be followed. In the county of Onondaga, the county necrotomist serves also on the staff of instruction of the medical school of Syracuse University.<sup>2</sup> Thus the cause of medical education and the public interests are both safeguarded.

#### IV. RESEARCH AND SPECIAL STUDENTS

The following articles represent the special studies which have been completed during the year:

1. BERNSTEIN, HARRY S.—A Clinical and Laboratory Report of a Case of Primary Malignant Disease of the Pleura. *Albany Medical Annals*, Vol. XXXIV, No. 2, February, 1913.
2. Bernstein, Harry S.—The Incidence of Renal Involvement in Pulmonary Tuberculosis. *Albany Medical Annals*, Vol. XXXIV, No. 11, November, 1913.
3. Keeton, Robert W.—The Secretion of the Gastric Juice During Parathyroid Tetany. (In press.)
4. Sampson, John A.—The Influence of Ectopic Pregnancy on the Uterus, with Special Reference to Changes in its Blood Supply and Uterine Bleeding. *Transactions of the American Gynecological Society*, Vol. 38, 1913.

Dr. Strobel, of Rutland, Vermont, availed himself of the surgical records in an article entitled "A New Method of Treat-

<sup>2</sup> Weiskotten, W. J.: The Office of Coroner and the Medical School at Syracuse. *Boston Medical and Surgical Journal*, Vol. XLXX, No. 2, January 8, 1914.

ment of Breast Cancer Based on Observations Concerning the Nature and Cause of Recurrence." It was published in the *American Journal of Surgery*, N. Y., Vol. XXVI, 1912.

The laboratory has always been open to special workers. Dr. Sampson continues his gynecological studies. Messrs. E. J. Early, G. S. Reitter, and H. A. Vogel, undergraduates of the Albany Medical College, and Mr. O. A. Faust, of the Johns Hopkins Medical School, have spent the summer months in assisting in the routine.

#### V. FINANCIAL STATEMENT.

The following statement of accounts indicates the earnings and expenditures of the office of the director:

##### LABORATORY INCOME.

*From September 1, 1912 to September 1, 1913.*

Balance on hand.....	\$1,136 40
Students' locker fees.....	396 00
Hospitals. . . . .	400 00
Examination of surgical specimens for Drs. Albert Vander Veer, Arthur W. Elting, and John A. Sampson.....	700 00
Examination of specimens other than above noted.....	2,881 26
Total. . . . .	<hr/> \$5,513 66

##### LABORATORY EXPENSES.

*From September 1, 1912 to September 1, 1913.*

Salaries of employees.....	\$2,192 78
Supplies and equipment other than that paid for by the Treasurer of the Laboratory.....	810 42
Petty accounts, including office and cleaning supplies, expressage, postage stamps, carfares, and refund to students for keys . . . . .	246 50
Telephone. . . . .	93 44
Books. . . . .	105 07
Stationery. . . . .	53 88
Animals. . . . .	268 10
Food for animals.....	186 78
Laundry. . . . .	32 24
Electricity (light and power).....	45 60
Balance on hand September 1, 1913.....	1,478 85
Total. . . . .	<hr/> \$5,513 66

The sum of \$1,791.62 from the City Board of Health has reverted direct to your Treasurer. The total earnings of the



laboratory for the past year have, therefore, amounted to \$6,168.88. Drs. Albert Vander Veer, Arthur W. Elting, and John A. Sampson have renewed their contracts for examination of surgical specimens. Dr. Arthur B. Van Loon<sup>3</sup> has indicated his willingness to enter into a similar contract.

The revenue from the hospitals consists of \$240 from the Albany Hospital, \$100 from the Homeopathic Hospital, and \$60 from St. Peter's Hospital. The Albany Hospital provides in addition the services of a pathological house-officer.

It has been pointed out in the last report that St. Peter's Hospital contributes \$5 per month for "stenographer's service." No official cognizance is taken of the services which make the stenographic reports possible. Dr. Elting's contract covers the examination of surgical specimens regardless of source. Nevertheless, the 520 specimens examined for St. Peter's Hospital include many from other attending staff surgeons. In addition, two hundred and seventy-three general examinations, comprising 77 bacteriological examinations, 84 Wassermann-Noguchi tests, 9 blood cultures, 102 Widal reactions, and 1 autogenous vaccine, were performed. The inadequacy of the hospital's contribution for all this work is only too obvious. Hospitals which maintain standards of scientific accuracy in the diagnosis and treatment of disease furnish liberal support towards a pathological department. The co-operation of the Board of Governors and Staff of St. Peter's Hospital may confidently be expected, upon their knowledge of the increasing work and upon emphasis of their obligations.

Beginning with January 1, 1913, the annual appropriation of the City Department of Health has been increased from \$1,500 to \$2,000. As indicated in the following table, the City Health work of the past year has exceeded all former records.

Year	Number
1903-1904.....	758
1908-1909.....	1,369
1909-1910.....	2,559
1910-1911.....	2,146
1911-1912.....	3,060
1912-1913.....	3,992

<sup>3</sup> Since the above writing, Dr. Van Loon has contributed \$100 for the work, acknowledgment of which is made with thanks.

Under the city contract, the work is limited to the examination of sputa for the tubercle bacillus and of cultures for the diphtheria bacillus. The laboratory prepares, distributes, and collects the "diphtheria outfits."

It is to be regretted that the City Department of Health makes no other provision for laboratory services to physicians at large. In this respect, it falls below the standard of many cities of the second class. The opportunities for real service to the community are untold. The Widal test for typhoid fever, the bacteriological and serological diagnosis of gonorrhoeal and syphilitic infections, and the bacteriological examination of the milk supply are measures which invite adoption by the Health Department. With the present trend of public thought and action toward eugenics, the diagnosis of the so-called "social diseases" becomes of paramount importance. No citizen, because of limited means, ought to be deprived of the aid which laboratory methods furnish. For by them the diagnosis of the varied and subtle manifestations of acquired or inherited constitutional disease is made. The welfare of the individual, his neighbors, and his progeny will thus be safeguarded by a Public Department of Health upon whom the burden rests.

The income from sources other than the hospitals and contract service has amounted to \$2,881.26—an increase of \$338.86 over that of the previous year. This income is derived from private physicians who call upon the laboratory for the various examinations. It is encouraging that the territory upon which the laboratory draws is widening. Moreover, the staff has at all times given gladly and freely of its services for any worthy patient.

Emphasis must be laid on the fact that the laboratory is not a money-making institution. The Albany Medical College provides the salaries of the staff; your board with its limited endowment attends to the up-keep of the building, and furnishes coal, gas, and part of the supplies. It is incumbent upon the director to earn enough to meet all other expenses. During the past year, these expenses have amounted to \$4,034.81, the itemized account of which has already been given.

To increase liberally the salaries of our efficient employees, to furnish adequate equipment for the more exacting demands of teaching and routine, and to meet the expenditures incurred in the study of special problems and in research is our chief aim.

## VI. REPAIRS AND EQUIPMENT.

The installation of window screens has supplied a long-felt want and has made work comfortable during the summer months. A special filing cabinet for microscopic slides has been procured. The cabinet has been placed in the technician's room; it is consequently of easy and ready access to the technicians who prepare the slides, and to the members of the staff and students who examine them. A dark-ground illuminator has been added to our present one. A "board of health head" for the centrifuge and a Babcock outfit have also been purchased for examining milk sediment and determining the fat content.

The most urgent need is that of a large ice-chest for the storage of culture media. Considerable material can thereby be saved, which ordinarily is lost through evaporation. Owing to the increase in the City Health work, it is imperative that a large stock of media be kept on hand. The medical inspection of school children has also increased the demand. In the event of the diagnosis of diphtheria in a scholar, the vigilant Health Director has taken throat cultures from the entire class-room to check a possible epidemic.

It is respectfully recommended that a small plot of ground adjoining the rear of the laboratory building be fenced in as an animal-yard. This will permit the animals to be out in the open in favorable weather and to enter the cellar through a window in case of stormy weather. Many of the amphitheatre seats are worn out as the result of prolonged use. To substitute new seats with arm-rests for writing upon will prove advantageous.

The year's work, as reviewed above, has indicated the services which the laboratory renders to the cause of medical education and to medical practice. It is particularly gratifying that the work for the profession at large is showing a gradual increase. To continue to merit and enjoy the confidence of the profession is our desire.

My thanks are due your board for your kindly interest and co-operation.

Respectfully submitted,

HARRY S. BERNSTEIN,

Director.

## THE LABORATORY DIAGNOSIS OF SYPHILIS OF THE NERVOUS SYSTEM.

*Read before the Dutchess County Medical Society, April 8, 1914.*

By HOWARD P. CARPENTER, M. D.,

*Poughkeepsie, N. Y.,*

*Senior Assistant and Pathologist, Hudson River State Hospital.*

Under this one head I will consider both general paresis and cerebral syphilis, as I believe them the same process with different methods of localization of the syphilitic infection in the brain, paresis being a parenchymatous syphilis of the nervous system. Moore and Noguchi, it seems to me, have proved this contention in their discovery of the *spirochaeta pallida* in the cortices of general paretics.

Syphilis of the nervous system is practically the only mental disorder that can be diagnosed in the laboratory, although the two manifestations, general paresis and cerebral syphilis, can not be absolutely separated.

I will take up in an informal way the methods of examination in the order in which we proceed in hospital cases. As a routine measure with a new admission, or on account of some suspicious neurological signs, a blood Wassermann is first performed. The method of performing this we have considered together before, so it will not be necessary to bother you with the mass of detail involved. However, I will say that the Wassermann reaction as modified by Noguchi gives an appreciable higher percentage of positive reactions in known positive cases of syphilis of the nervous system, and for that and other good reasons is used by preference in the State Hospital work. Suffice it to say that approximately ninety per cent. or over of general paretics and about the same number of cases of cerebral lues (meningitis, endarteritis, etc.) gave positive blood reactions. Some laboratories have obtained as high as one hundred per cent. in a large series of cases. This, of course, may not mean syphilis of the nervous system, but a systemic syphilitic infection; however it is another symptom to add to the picture. The Wassermann reaction with the blood being positive, it is next important to perform a spinal puncture. This is attended with little danger, and with little discomfort if the small nineteen-gauge needles are used, the skin cocainized, and not over five cubic centimeters of spinal fluid withdrawn under aseptic



precautions. Three processes are to be undertaken with the fluid. First, the globulin content is to be examined. Noguchi has devised a simple means by adding two-tenths cubic centimeters of spinal fluid to five-tenths cubic centimeters of ten per cent. butyric acid solution, boiling and adding one-tenth cubic centimeters of normal NaOH (four per cent.) and boiling again. A flocculent precipitate indicates an increase in globulin. Globulin is increased in all inflammatory reactions of the meninges whether acute or chronic. It is always excessive in general paresis and cerebral lues. In reviewing our series of cases of cerebral syphilis and general paresis I found but one that gave a negative reaction. The cells are next counted in the fresh, well-shaken spinal fluid by drawing an acetic acid, gentian violet mixture up to the mark one in an ordinary leucocyte counting pipette. Then draw the spinal fluid to the mark eleven and agitate it. A drop of the mixture is placed upon a special Rosenthal counting chamber and the number of lymphocytes estimated in the same manner that a leucocyte count is made. This chamber is larger, however, so we have a different formula in computing the result, which is: the number of cells contained in the entire ruled area, multiplied by eleven and divided by thirty-two. This gives, then, the cells per cubic millimeter. The following standard is used. Under five cells per cubic millimeter is considered negative. Five to nine cells per cubic millimeter is considered doubtful, and over nine cells positive. General paretics give a count of from twenty to three hundred or over, although usually between fifty and one hundred. Cerebral syphilis likewise gives a high count—one such case having as high as six hundred and eighteen per cubic millimeter. It has been stated that any count over eighty points to cerebral lues rather than to general paresis, but this has not been borne out by our cases coming to autopsy. The cell count, therefore, will not differentiate between general paresis and cerebral syphilis. It may be said, however, that the count bears a definite relation to the intensity of the meningeal process. The acute meningitic infection of cerebral lues gives a most marked lymphocytosis, varying in our cases from fifty-six to six hundred and eighteen per cubic millimeter. Gummatous conditions with some meningeal infection varying from forty to one hundred per cubic milli-

meter, while in endarteritic forms with little meningeal infection the count may be as low as three to five cells per cubic millimeter.

Practically the only other condition that may be considered is tuberculous meningitis in which there is a lymphocyte count, but the symptoms are quite different and the tubercle bacilli can be recovered from the fluid by direct examination, or upon guinea pig inoculation. Epidemic meningitis does not concern us on account of the radically different symptoms and on account of the presence of pus cells and the etiological organisms in the fluid.

The last step in the process is the Wassermann reaction with the spinal fluid. This in general paresis cases gives almost one hundred per cent. of positive results. In cerebral syphilis the percentage is only probably about twenty with the amounts usually used in the test, and by some it is always considered negative.

In conclusion, the laboratory, in the diagnosis of nervous and mental diseases as in disease conditions generally, is not intended nor will it ever take the place of careful, conscientious clinical study, but will form the most valuable aid if properly used and its results carefully interpreted.

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### Editorial

Men are apt to play with their health and their lives, as they do with their clothes. To find any felicity, or take any pleasure in the greatest advantages of honor and fortune, a man must be in health. Who would not be covetous, and with reason, if this could be purchased with gold? Who not ambitious, if it were at the command of power, or restored by honor? but alas! a white staff will not help gouty feet to walk better than a common cane; nor a blue ribbon bind up a wound so well as a fillet; the glitter of gold or of diamonds will but hurt sore eyes, instead of curing them; and an aching head will be no more eased by wearing a crown than a common nightcap.

SIR W. TEMPLE.



The Nurses'  
Bill.

This phrase does not apply to the nurse's account for services rendered nor to the young man whom she meets in the park during her hours of recuperation, but to a real serious menace to the whole practice of nursing and welfare of the community, as

represented by attempts at regulation during the last two sessions of the New York Legislature. As those who are near the scene of action may be thought to indulge a bias in matters of this kind, it is a satisfaction to have an opinion upon such efforts from a distance as being free from prejudice. The comment which follows is from the *Boston Medical and Surgical Journal* of March 19th last, and the incidental allusion to the work of the Albany Guild for the Care of the Sick should be very gratifying to those who have been endeavoring for the last fifteen years to meet the actual necessities of sick people and to provide bedside care for them from a practical point of view not too much tinctured with theory.

"A hearing was recently held in Albany upon the two bills, in the Senate and Assembly respectively, known as the Seeley and Hoff bills, which are identical in their provisions and have the title, 'An act to amend the public health law, in relation to the practice of nursing.' They are in every respect similar to bills which were killed in the last Legislature, having for their object the creation of a high-priced nursing monopoly, for the benefit of a few at the expense of the many. They would debar, under heavy penalties, all persons except 'registered nurses' from calling themselves nurses, and are strongly opposed to the public interest, since no provision whatever is made for nurses for persons of moderate means, who comprise over ninety per cent. of the population; while instruction for the low-priced nurses, which for nearly ten years past has been provided by an admirable and successful institution for the purpose at Albany, is forbidden under penalty of the law. At the hearing, among those who opposed the bills were representatives of no less than thirty-eight large hospitals in New York City, including such institutions as the Roosevelt and St. Luke's Hospitals, and from Albany the superintendent of the large City Hospital."

**Public Health**

Edited by Arthur Sautter, M. D.,

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, MARCH, 1914.

*Deaths.*

Consumption. . . . .	33
Typhoid fever . . . . .	3
Scarlet fever . . . . .	0
Measles. . . . .	0
Whooping-cough . . . . .	0
Diphtheria and croup. . . . .	4
Grippe. . . . .	3
Diarrheal diseases . . . . .	1
Pneumonia. . . . .	16
Broncho-pneumonia. . . . .	6
Bright's disease . . . . .	13
Apoplexy. . . . .	11
Cancer. . . . .	10
Accidents and violence. . . . .	8
Deaths under 1 year. . . . .	27
Deaths over 70 years. . . . .	28
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Total deaths . . . . .	207
Death rate . . . . .	24.36
Death rate less non-residents. . . . .	21.42

*Deaths in Institutions.*

	Resident	Non-Resident
Albany Hospital . . . . .	18	11
Child's Hospital . . . . .	0	0
County House . . . . .	1	3
Homeopathic Hospital . . . . .	6	0
Hospital for Incurables. . . . .	4	0
Home for the Friendless. . . . .	0	0
Little Sisters of the Poor. . . . .	3	0
Public places . . . . .	3	0
Penitentiary. . . . .	0	1
Sacred Heart Convent. . . . .	1	0
St. Margaret's House. . . . .	4	1
St. Peter's Hospital. . . . .	8	3
Austin Maternity Hospital. . . . .	1	0
Albany Hospital, Tuberculosis Pavilion. . . . .	4	2
<hr/>		
Total. . . . .	53	21
<hr/>		
Births. . . . .	161	
Still births . . . . .	3	
Premature births . . . . .	0	



*Report of Visiting Tuberculosis Nurse.*

Old cases .....	9
Number of new cases.....	14
Cases returned from hospitals.....	12
	<hr/>
Total. . . . .	35
Disposition of old and new cases:	
Died. . . . .	1
Sent to hospitals.....	11
To Denver, Colo.....	1
Transferred to general work.....	14
Remaining under supervision.....	7
Discharged. . . . .	1
	<hr/>
Total. . . . .	35
Visits. . . . .	67

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. . . . .	9
Negative. . . . .	44
	<hr/>
Total. . . . .	53
Living cases on record March 1, 1914.....	351
Cases reported:	
By card .....	31
Dead cases by certificate.....	9
	<hr/>
	40
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Total. . . . .	391
Dead cases previously reported.....	24
Dead cases not previously reported.....	9
Removed. . . . .	23
Duplicates. . . . .	5
	<hr/>
	61
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Living cases on record April 1, 1914.....	330
Total tuberculosis death certificates filed during March.....	33
Out of town cases dying in Albany:	
Albany Hospital .....	4
Albany Hospital Camp.....	2
	<hr/>
	6
	<hr/>
City tuberculosis deaths.....	27

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	10
Scarlet fever .....	3
Diphtheria and croup.....	5
Chickenpox. . . . .	6
Smallpox. . . . .	0
Measles. . . . .	7
Whooping-cough . . . . .	0
Consumption. . . . .	38
Total. . . . .	69

*Contagious Disease in Relation to Public Schools.*

	Reported	
	D.	S.F.
Boys' Academy .....		1
St. Agnes' School.....		1
St. Ann's School.....	1	....
Number of days quarantine for diphtheria:		
Longest..... 28      Shortest..... 8      Average.....		14
Number of days quarantine for scarlet fever:		
Longest..... 36      Shortest..... 36      Average.....		36
Fumigations:		
Houses..... 38      Rooms.....		196
Cases of diphtheria reported.....		5
Cases of diphtheria in which antitoxin was used.....		7
Cases in which antitoxin was not used.....		0
Deaths after use of antitoxin.....		1

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive. . . . .	12
Initial negative. . . . .	234
Release positive. . . . .	4
Release negative. . . . .	18
Failed. . . . .	6
Total. . . . .	274

*Test of Sputum for Tuberculosis.*

Initial positive. . . . .	9
Initial negative. . . . .	37
Failed. . . . .	4
Total. . . . .	50

BUREAU OF MARKETS AND MILK.

Public market inspections.....	13
Market inspections .....	120
Packing house inspections.....	2
Rendering plant inspections.....	2
Slaughter house inspections.....	2
Fish market inspections.....	2
Hide house inspections.....	2
Milk depots inspected.....	15
Milk depots inspected.....	15
Milk depots deficient.....	4
Milk wagons inspected.....	33
Milk wagons deficient.....	5
Milk cans inspected.....	77
Milk cans unclean.....	8
Stores inspected .....	104
Stores deficient .....	12
Lactometer tests .....	16
Temperature tests .....	16
Fat tests (milk).....	16
Fat tests (cream).....	3
Below standard .....	1
Chemical tests .....	2
Sediment tests .....	14
Sediment found .....	7
Pork condemned, pounds.....	100
Beef condemned, pounds.....	800

MISCELLANEOUS.

Work certificates issued to children.....	28
Number of written complaints of nuisances.....	96
Privy vaults .....	62
Closets. . . . .	2
Plumbing. . . . .	11
Other miscellaneous complaints.....	21
Cases assigned to health physicians.....	102
Calls made .....	212

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR MARCH, 1914.—Number of new cases, 242; classified as follows: Dispensary patients receiving home care, 24; district cases reported by health physicians, 5; charity cases reported by other physicians, 86; moderate income patients, 92; metropolitan patients, 35; old cases still under treatment, 145; total number of cases under nursing care during month, 387. Classification of diseases for the new

cases; Medical, 52; surgical, 12; gynecological, 4; obstetrical under professional care, mothers 55, infants 53; eye and ear, 2; throat and nose, 1; infectious diseases in the medical list, 63. Disposition: Removed to hospitals, 27; deaths, 12; discharged cured, 108; improved, 32; unimproved, 25; number of patients still remaining under care, 183.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 6; nurses in attendance, 4; patients carried over from last month, 0; new patients during month, 6; patients discharged, 4; visits by head obstetrician, 2; by attending obstetrician, 1; by students, 31; by nurses, 34; total number of visits for this department, 68.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,641; for professional supervision of convalescents, 704; total number of visits, 2,345; visits to pay cases, 713; to charity cases, 928; unrecorded visits, 704; cases reported to the Guild by 5 health physicians, and 47 other physicians; graduate nurses 7, certified nurses 2, and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 84; new patients, 178; old patients, 423; total number of patients treated during month, 601. Classification of clinics held: Surgical, 11; nose and throat, 7; eye and ear, 14; skin and genito-urinary, 7; medical, 12; lung, 9; dental, 0; nervous, 0; stomach, 4; children, 12; gynecological, 8.

AMERICAN NEUROLOGICAL SOCIETY.—The American Neurological Society will meet in Albany, May 7th, 8th and 9th under the presidency of Dr. Henry Hun.

AMERICAN THERAPEUTIC SOCIETY.—The American Therapeutic Society will meet in Albany on May 21st under the presidency of Dr. Howard Van Rensselaer.

INTERNATIONAL CONGRESS OF NEUROLOGY, PSYCHIATRY AND PSYCHOLOGY.—The International Congress of Neurology, Psychiatry and Psychology will be held at Berne, Switzerland, September 7th to 12th, 1914.

LEONARD HOSPITAL, TROY, N. Y.—Mrs. Russell Sage recently gave \$25,000 to the hospital on condition that \$40,000 more be raised, so far \$66,000 has been pledged.

DR. STRONG'S SANITARIUM, SARATOGA, N. Y.—Dr. Conyers Herring has been appointed Medical Director of Dr. Strong's Sanitarium, Saratoga, N. Y.

THE PHILADELPHIA VIVISECTION TRIAL.—The jury in the case of Joseph A. Sweet of the University of Pennsylvania who was charged with cruelty to dogs after vivisection operation, disagreed and were discharged.



**MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.**—The regular meeting of the Medical Society of the County of Schenectady was held at the County Court House on Wednesday, April 15, 1914, at 8.30 P. M.

Scientific program: "Uterine Hemorrhage, with Special Reference to Ectopic Gestation," Dr. J. A. Sampson, Albany, N. Y.; "Mortality in Surgery, a Study of the Deaths Encountered in a Series of 1572 Operated Cases," Dr. E. MacD. Stanton.

**CHRISTIAN SCIENCE BILL PASSES SENATE.**—The McClelland-Thorn bill permitting Christian Scientists to treat the sick has passed the Assembly and the Senate and has been sent to the Governor for his signature. This bill amends the medical laws so that people of the State may resort to Christian science for help without violating the provisions of the medical practice act. It exempts from this act "any person who administers to or treats the sick or suffering by mental or spiritual means without the use of drugs or any material remedy."

**MEASLES AT CORNELL.**—An epidemic of German measles among the students of Cornell University, Ithaca, has filled the University Infirmary. Twenty-five cases of the disease are being treated there and a number of other cases are scattered about the town.

**STATE VITAL STATISTICS.**—The Bulletin of the New York State Department of Health gives the total number of deaths throughout the State during the month of January as 13,353 or 1,953 above the average for the past fifteen years. The deaths of persons over sixty years of age formed 36 per cent of the total and numbered 400 more than the average; while those of infants under one year of age formed only 14 per cent and were 300 less than the average. The births during the month totaled 19,367 or 6,014 in excess of the deaths. With the exception of Albany and Troy all of the first class cities in the State shared in this excess of births over deaths. In Albany, however, the deaths exceeded the births by 44 and in Troy by 69.

**TUBERCULOSIS AMONG COWS.**—The New York Milk Committee has sent to Governor Glynn the statement that 500,000 of the 1,500,000 dairy cows in this State are tuberculous and that 40 per cent of these are spreaders of the disease. The suggestion is made that the Webb bill providing for a compulsory examination of all dairy cattle and the destruction of all showing physical signs of disease would only slightly retard the progress of the disease. It was urged that such physical examination of dairy cows was irregular and uncertain and would only detect a small percentage of the cows affected. It was stated that the only reliable method of detecting bovine tuberculosis was by the tuberculin test. It is asserted that 90 per cent of the residents outside the city of New York consume raw milk and are therefore exposed to infection.

**WARNING TO USERS OF TURPENTINE FOR MEDICINAL OR VETERINARY PURPOSES.**—As a result of an investigation by the United States Department of Agriculture, it has been found that the adulteration of turpen-

tine with mineral oils is so widespread that druggists and manufacturers of pharmaceutical products and grocers' sundries used for medicinal and veterinary purposes should exercise special caution in purchasing turpentine. Those who use turpentine for this purpose, unless they are careful run the risk of obtaining an adulterated article and unnecessarily laying themselves open to prosecution under the Food and Drugs Act.

It has been found, moreover, that the turpentine sold to the country stores especially, as usually put out by dealers and manufacturers of grocers' sundries, is often short in volume by as much as 5 to 10 per cent. Dealers, therefore, should also protect themselves through a guarantee from the wholesaler that the bottle contains the full declared volume.

The Department has found that turpentine may be adulterated in the South where it is made and that the further it gets from the South the more extensively and heavily it is adulterated.

In all cases, druggists, manufacturers and wholesale grocers should satisfy themselves that the turpentine is free from adulteration and is true to marked volume.

**STATE CONTROL OF DISEASE.**—The State Public Health Council after seven months' study, during which 10 meetings have been held, has enacted the chapter on communicable diseases of the new State sanitary code. This code, under the health law enacted last year, has the force and effect of law when it takes effect on May 1, and any violation of it is a misdemeanor. The code repeals all local sanitary regulations inconsistent with it and applies to the whole State except the city of New York. Local health authorities, however, may enact additional regulations not inconsistent with the code. Health officers are required to enforce its provisions.

Regulation 15, entitled "Adults not to be quarantined in certain cases," provides that when a person affected with a communicable disease is properly isolated on the premises, except in cases of smallpox, "adult members of the family or household who do not come in contact with the patient or with his secretions or excretions, unless forbidden by the health officer, may continue their usual vocations, provided such vocations do not bring them in close contact with children."

Another important regulation relating to food provides that whenever any communicable disease exists on any farm or dairy producing milk cream, butter, cheese or other food likely to be consumed raw, the State commissioner of health or local health officer may destroy or order the destruction of any food which may have been so contaminated as to be a source of danger. This regulation also provides that the local authorities may compensate the owner for food so destroyed.

No person affected with any communicable disease shall handle food or food products for sale according to Regulation 39. This regulation further provides that "No person who resides, boards, or lodges in a household where he comes in contact with any person affected with

bacillary dysentery, diphtheria, epidemic or septic sore throat, measles, scarlet fever, or typhoid fever, shall handle food or food products for sale. No waiter, waitress, cook or other employee of a boarding house, hotel, restaurant, or other place where food is served, who is affected with any communicable disease, shall prepare, serve, or handle food for others in any manner whatsoever. No waiter, waitress, cook, or other employee of a boarding house, hotel, restaurant, or other place where food is served, who lodges or visits in a household where he comes in contact with any person affected with bacillary dysentery, diphtheria, epidemic or septic sore throat, measles, scarlet fever, or typhoid fever, shall prepare, serve, or handle food for others in any manner whatsoever."

Other regulations provide that no milk, cream, butter, cheese or other food likely to be consumed raw shall be sold from any farm or dairy on which exists a case of communicable disease except under a permit issued by a health officer after he is satisfied that certain conditions specified in the code are complied with to prevent the foods becoming contaminated.

The minimum periods of isolation for certain diseases are as follows:

Chickenpox, until 12 days after the appearance of the eruption and until the crusts have fallen and the scars are completely healed.

Diphtheria (membraneous croup), until two successive negative cultures have been obtained from the nose and throat at intervals of 24 hours.

Measles, until 10 days after the appearance of the rash and until all discharges from the nose, ears and throat have disappeared and until the cough has ceased.

Mumps, until two weeks after the appearance of the disease and one week after the disappearance of the swelling.

Smallpox, until 14 days after the development of the disease and until scabs have all separated and the scars completely healed.

Scarlet fever, until 30 days after the development of the disease and until all discharges from the nose, ears and throat or suppurating glands have ceased.

Whooping cough, until eight weeks after the development of the disease or until one week after the last characteristic cough.

PERSONALS.—Dr. PAUL V. WINSLOW (A. M. C. '08), has been appointed health officer of Wappinger Falls.

—Dr. WARDNER D. AYER (A. M. C. '10), has been appointed pathologist to the Crouse Irving Hospital, Syracuse, N. Y.

—Dr. WALTER C. FOX (A. M. C. '11), has opened an office at Fort Plain, N. Y.

—Dr. GOUTANO G. NICOSIA (A. M. C. '13), has removed to 119 Stone Avenue, Brooklyn, N. Y.

ENGAGEMENT.—Mr. and Mrs. George F. Doring of Troy, N. Y., announce the engagement of their daughter, Miss Edna Doring to Dr. CHAUNCEY B. PACKARD of Berlin (A. M. C. '11).

## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*Formulaire de Thérapeutique Clinique* par le Dr. L. PRON, Membre de la Société de Thérapeutique, avec la collaboration du Dr. A. CANTONNET, Ophthalmologiste des Hôpitaux de Paris. Deuxième édition refondue et augmentée: 1 vol. in-16, 544 pages, reliure toile souple, tête dorée (1914); librairie Maloine, Paris. Prix: 6 francs.

The purpose of this work is to place in the hands of the general practitioner a pocket formulary which he may consult with advantage at all times and under all possible circumstances. The author takes up one after another, in regular alphabetical order, not only diseases but symptoms, and outlines in concise and comprehensive terms the main therapeutic indications to be followed. Inasmuch as treatment is often limited, as a matter of necessity, to purely symptomatic considerations, this little volume meets admirably the exigencies of an only too frequent situation—the impossibility of an immediate diagnosis. At the same time, a valuable suggestion as to the possible pathogeny of the symptom is afforded by the fact that Pron, who is an accomplished clinician, indicates under separate headings the specific modes of procedure to be employed in combating the same symptom arising from essentially different causes. Thus, whether the practitioner has to deal with a symptom, a syndrome, or a well-defined and perfectly evident morbid entity, he is at once reliably informed regarding the hygienic, dietetic and medicinal measures which the occasion demands. The compendium contains, moreover, an exceptional number of excellent formulae with full instructions as to later modifications either in point of dosage or of composition. Separate sections are devoted to the discussion of alimentary régimes, to serotherapy and vac-cinotherapy, to opotherapy and to poisons and their antidotes. A convenient little volume for reference, containing innumerable suggestions of real value, and applicable to practically every conceivable form of emergency, the formulary of L. Pron should prove of inestimable service in the trying and overcrowded moments of the daily practice of medicine.

L. A.

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*Les Techniques Anatomo-pathologiques du Système Nerveux.* By G. ROUSSY and J. LHERMITTE. Masson & Cie., Editeurs. Paris, 1914.

The excellence of this work, already guaranteed by the fact that such an able technician as G. Roussy is its chief contributor, is further assured in the flattering preface written by Professor Pierre Marie. The authors expose with the greatest care all the details of technique pertaining to laboratory investigations in the domain of Neuropathology. The rules which govern a perfect autopsy of the nervous system, the correct orientation of the initial macroscopic sections of the brain and spinal cord, the choice of suitable hardening fluids determined by the type of investigation later to be pursued, are all set forth most clearly and accurately.



The various means at our disposal for obtaining microscopic sections, the importance of serial sections, the selective influence of certain staining reagents, the newer and most advantageous methods of coloring nerve-cells, myelin-sheaths and the neuroglial frame-work, are all taken up with the greatest precision. The authors describe a number of procedures which are entirely new and original. In fact, nothing has been neglected to make this work complete and scientific, and, at the same time practical and useful.

L. A.

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*Introduction à la Médecine des Passions.* By Dr. MAURICE BOIGEY. Librairie Félix Alcan. Paris, 1914.

This work is devoted to a study of the passions both from a physiological and a pathological point of view. In the first part, the author establishes the natural relationship which exists between the normal needs of man and the genesis of the various passions. He discusses in detail the influence exerted, upon the development of the passions, by age, sex, climate and season, heredity, alimentation, physical constitution, disease, as well as by social and moral factors. He attempts to show that passion in general has a natural tendency to lead to suicide. Boigey dwells at length upon the changes both structural and functional which are wrought in the economy as the direct consequence of passion in one form or another. A special chapter is concerned with the management, medical, penal and religious, of the various morbid and criminal states resulting from the different forms of passion.

In the second part of his work, Boigey takes up more in detail, the causes, nature and modalities, symptoms and evolution of individual passions such as: love, pride, ambition, etc. He even describes the "passion of politics" as well as the minor and more innocuous passions of order, study, music, philanthropy, etc.

The terminal chapters deal with the more modern passions represented by alcoholism and addiction to narcotic drugs.

L. A.

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*L'action directe Sur les Centres Nerveux-Centrothérapie.* By Dr. PIERRE BONNIER. Librairie Félix Alcan. Paris, 1914.

Assuming that the medulla contains the centres which regulate and protect the anatomic integrity and the functional equilibrium of all our activities the author proposes to check and rectify all disturbances of normal function by acting directly upon the bulbar nuclei. Hence the term Centrotherapy for his novel means of arresting all perturbations of our fragile physiologic mechanism. In order to reach the bulb, the most readily accessible channel, according to Bonnier, is the voluminous trunk of the trigeminal nerve with its wide area of peripheral distribution; the most physiologic mode of soliciting a response on the part of the bulbar nuclei is a cautious and extremely delicate cauterization of the nasal mucosa, at a point which will vary with the centre which it is desired to

stimulate. According to the author, different areas of the nasal mucous membrane stand in direct relation with individual nuclei in the medulla, the function of each of which is to preside over all the activities of some given organ or region of the body. Thus each peripheral segment of the economy has its specific bulbar centre which, in turn, has its representation zone in the olfactory mucosa. The author's principle is to relieve the disorders of almost any part of the body by cauterizing its physiologically related area in the nasal chamber. He claims to have obtained marvelous results in an almost endless variety of affections.

L. A.

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*Collected Papers by the Staff of St. Mary's Hospital (Mayo Clinic) for 1912.* Octavo of 842 pages, 219 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$5.50 net.

The first fourteen papers in the volume treat of various important medical and surgical diseases of the alimentary canal, among the more important of these being a study of the involvement of regional lymphatic glands in carcinoma of the stomach based upon the study of 200 resected cases. The conclusions drawn from this series of cases are of the greatest practical importance to the surgeon. There are several especially good articles on the surgical maladies of the large intestine especially diverticula and carcinoma. One of the best articles is that on the radical operation for the relief of cancer of the rectum and rectosigmoid based upon a careful study of their results in a large number of cases treated by the different operative procedures, the conclusion being that there is no one operation that is preferable, but that the operation should be determined by the character of the case.

Three papers deal with certain phases of hernia, one of which emphasizes the occurrence of right inguinal hernia following appendectomy. Then follow fifteen papers dealing with the genito-urinary tract; tumors of the bladder, and hypertrophied prostate receiving especial attention. The preference at the clinic at this time is decidedly for the suprapubic method of prostatectomy.

Ten papers on the ductless glands deal chiefly with the spleen and thyroid, there being one paper on the surgical importance of the thymus. The pathology of splenomegaly and of goiter based on a study of the material from the clinic is a most important addition to the knowledge of these subjects.

Seven papers are on subjects connected with the head, thorax, spinal column and extremities. Various phases of technique are discussed in six papers. Fourteen papers are of a general character. Some of them are based on observations in various surgical centers abroad and others devoted to such subjects as the complications following surgical operations, post-operative embolism, drainage of wounds and the Noguchi and other reactions.

The volume contains 842 pages of subject-matter, including an excellent index. There are 219 well-executed illustrations and the bookmaking as usual is very attractive. To every physician and surgeon this volume must appeal for it is filled with the most valuable observations, deductions and suggestions, which will form a permanent addition to medical literature.

A. W. E.

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*The Problem.* The Autobiography of a Physician. By CHARLES PERCY, M. D., B. Sc. The Shakespeare Press, 114-116 East 28th St., New York. 1913.

The author under the guise of fiction, delves into a speculative discussion of the nature of sleep, somnambulism and life and expatiates his theories in an entertaining manner. Observing that a patient, the victim of an incurable disease, felt stronger after a good night's rest, he takes up one theory after another about the nature of sleep and comes to the solution of the problem that "sleep is the diminished excitability of the cerebral nerve centers, with the concomitant loss of consciousness." Then he proceeds to describe how he succeeded in resuscitating a patient dead for several days by re-establishing the action of the heart by electrical contrivances, restored intelligence and went to the extent of dividing the two cerebral hemispheres. While such exaggerations are only permissible in imaginative literature yet they arouse keen interest in view of the marvelous experimental achievements of Carrell and others.

N. A. P.

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*Malaria: Etiology, Pathology, Diagnosis, Prophylaxis, and Treatment.* By GRAHAM E. HENSON, M. D., Member American Medical Association, Florida Medical Association, Southern Medical Association, American Society of Tropical Medicine, Medical Reserve Corps, United States Army (non-active list), with an Introduction by Charles C. Barr, M. D., Professor of Experimental Medicine, Medical Department, Tulane University, New Orleans. Twenty-seven illustrations. St. Louis, C. V. Mosby Co., 1913.

This book, written, for the general practitioner by a man whose long experience and research in the disease of which it treats in one of the most intensely malarious regions of the United States well qualifies him for the work, is most opportune and valuable for the profession.

The eradication of malaria is one of the most serious problems which confronts the sanitarian in all tropical and sub-tropical countries. It is a disease most easy to diagnose and to treat, if proper methods of diagnosis and therapy are instituted, and also fairly easy of eradication if proper methods and enough money are spent in the attempt. It is a fact, however, that both the public and the profession have been blind in the past to their responsibility in the matter and to the frightful toll in both lives and money which the disease entails for all countries in



which it is endemic. At a time when methods of eradication are being specially advanced this book appears, giving a practical and clear presentation of the whole subject.

The several chapters deal with general considerations (history, geographic distribution and economic lore), etiology (3 chapters, dealing respectively with the parasites, the infecting mosquitoes, and the general factors of etiology), pathology, complications, sequellae and prognosis, diagnosis, latency, recurrences, chronicity, prophylaxis and treatment.

The text is clear and contains a careful review of the entire literature from which the author has not hesitated to make extensive quotations when he has considered they were of special value, all with proper acknowledgment as to their source. The results of all the latest researches are included.

The illustrations are good, there are many tables, and there is an excellent index of subject matter and one of authors.

C. K. W., JR.

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## GYNECOLOGY.

Edited by John A. Sampson, M. D.

*Four Cases of Inversion of the Uterus.*

J. N. STARK. *Journal of Obstetrics and Gynecology of the British Empire*, August, 1913.

The writer reports four cases of inversion of the uterus occurring in his practice. Two were post partum or puerperal, and two were pathological or non-puerperal.

The first occurred in a primipara twenty-four years of age. A sudden collapse followed a normal delivery and the patient died within an hour, with all the symptoms of shock but without the loss of an excessive amount of blood. The labor was tedious but normal, and only a moderate amount of suprapubic pressure was used in the expulsion of the placenta.

From a review of the literature the writer concludes that the present mortality rate in acute inversion is about twenty-five per cent. He believes that no attempt should be made to restore the uterus until after the patient has rallied from the shock of the inversion.

The second case occurred in a woman twenty-three years of age, who had been attended by a midwife. The patient had repeated attacks of bleeding from the uterus, but the condition was not diagnosed until four months after her labor as a vaginal examination hadn't been made. The inversion was complete and was restored, through the abdominal route by splitting the posterior uterine wall and cervix. The patient recovered.

The two cases of non-puerperal inversion were both due to carcinoma of the body of the uterus, which had been expelled through the cervix with inversion of the fundus. One died without operation, and the other was cured by an abdominal hysterectomy.



*Thrombosis and Embolism Following Operation and Childbirth.*

B. R. SCHENCK. *Surgery, Gynecology and Obstetrics*, November, 1913.

The writer states that the cases of venous thrombosis following operation or delivery may be divided into two groups which are clinically distinct. First those usually puerperal, caused by acute infection, in which the pelvic veins are involved. Second the later developing and milder cases of thrombosis, more frequently post operative, in which the femoral or saphenous veins are most often affected. The infectious origin of the first group is unquestioned, while the etiology of the second group is still in dispute. In this paper the writer discusses solely the second variety of thrombosis. He divides this group into three types according to the different veins affected. First when only the pelvic veins are involved where there are usually few symptoms, yet the variety which is most apt to give rise to pulmonary emboli. Second, thrombosis of the deep veins of the leg, which causes symptoms and yet when once sufficiently developed to occlude the vein emboli rarely occur. The emboli are more apt to develop during the formation of the thrombus. In the third type the saphenous vein is thrombosed and the pain, swelling and oedema are less severe than when the deep veins are affected.

From a review of the literature thrombosis occurs in about four-tenths per cent of obstetrical cases and one and eighteen-hundredths per cent gynecological operations, being more frequent in laparatomies, namely two and twenty-eight hundredths per cent.

Their exact etiology has been and is still disputed, but certain factors concerned in their production are well recognized, namely, injury to the vessel walls and a slowing of the blood stream and some biochemical cause producing the clotting of the blood. The trend of the present opinion favors the theory that the majority of thrombi originate from the conglutination of blood platelets and red blood corpuscles. Haemolysis is the most important cause of this conglutination, and the writer believes that this is brought about by bacteria so feebly virulent that they usually do not produce evidence of gross infection.

Their prophylaxis must be begun before the operation, kept in mind during it and carried out afterwards. Special care should be taken to avoid injury to veins by retractors, pressure on veins due to maintaining the patient on the table, and the avoidance of infection. After operation the principal aim in prophylaxis is to prevent the slowing of the blood stream. This is accomplished by a careful supervision of the heart action by early active and passive exercise of the legs and by getting the patient out of bed early.

There has been little new in the treatment of thrombosis. Elevation of the affected leg, rest, hot or cold applications comprise the conservative treatment.

On the basis of the late results in the few cases in which the writer has been able to obtain data, he states that about sixty-five per cent never fully recover and that if complete restoration is to follow it will come before the end of the first year.

*Carcinoma of the Cervix of the Uterus.*

HOWARD A. KELLY and J. CRAIG NEEL. *Bulletin of The Johns Hopkins Hospital*, Vol. XXIV, No. 270, Page 231, August, 1913.

This article deals with the ultimate results, as far as they could be obtained, of all cases of carcinoma of the cervix occurring in the Gynecological Clinic of the Johns Hopkins Hospital from 1900 to 1911, 137 cases in all. The article is a resume of the cases including clinical history, treatment, findings at operation, primary mortality, late results and absolute accomplishment. It is an extremely valuable paper as it reflects the results of Dr. Kelly and his associates at the Johns Hopkins Hospital.

From the study of the cases treated the authors draw the following conclusions:

1. The extensive abdominal removal of all uterine cervical carcinomata is justified where there is any hope of complete excision, unless there is some special contraindication to surgical interference. This operation, if properly performed, notwithstanding the high primary mortality, has given the greatest percentage of permanent cures of any therapeutic measure thus far suggested.

2. An exploratory operation is often necessary to determine whether or not a case is operable.

3. Obesity is not necessarily a contraindication to the operation, since the wide horizontal lipectomy decreases the depth of the field of operation.

4. The preliminary catheterization of the ureters is a valuable aid, especially in fat patients, and does not necessarily increase the probability of fistulae and secondary infection of the urinary tract.

5. Decreased cervical mobility is sometimes due to a secondary inflammatory reaction and may be improved by a thorough cauterization of the primary growth.

6. Preliminary cauterization and disinfection of the primary growth are advisable in all cases.

7. Extensive glandular dissection is not justified, since the increase in permanent cures does not compensate for the rise in percentage of the primary mortality.

8. By improvements in the technique of the operation, the primary mortality has been decreased from twenty-eight and five-tenths per cent for the first seven years to eleven and five-tenths per cent for the last five years. Further simplification and perfection of the details of this operation may yet reduce the primary mortality to nearly that of the ordinary laparotomy and make it more generally available.

Aside from the discovery of the etiological factor of carcinoma of the cervix of the uterus and its successful elimination, the greatest hope lies in the early recognition of the primary growth. This can only be accomplished by a more thorough training of the family physician as to the symptoms and signs of cancer and a systematic education of the laity.

*Cauterization of "Inoperable" Carcinoma of the Cervix of the Uterus.*

H. A. KELLY and J. C. NEEL. *Johns Hopkins Bulletin*, December, 1913.

It has been noted by many surgeons that temporary improvement often follows the cauterization of an advanced carcinoma of the cervix of the uterus. This improvement may be so great as to render a previously inoperable case operable. The writers describe the method of cauterization with the actual cautery which they use and draw the following conclusions.

The extensive radical abdominal operation offers the greatest hope of absolute cure in patients suffering from carcinoma of the cervix of the uterus, and the percentage of operability has been increased by this operation. An exploratory operation is occasionally necessary to determine whether or not the radical operation is to be attempted. Pelvic induration may be due to the following causes (a) direct extension of the cancer into the broad ligament on either side (b) secondary inflammatory reaction in one or both broad ligaments and (c) pelvic peritonitis involving one or both broad ligaments. Hence the immobility of the cervix is not an infallible sign in determining whether or not a case is operable.

In advanced cases of cervical carcinoma a preliminary curettage and cauterization is advisable for the following reasons: (a) A large portion of the friable growth may be removed through the vagina. (b) The vaginal field is disinfected. (c) The induration in the broad ligaments, due to secondary inflammatory reaction, may be relieved, rendering a previously immobile cervix mobile.

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*Thyroid Tissue Tumors of the Ovary.*

GEO. W. OUTERBRIDGE. *American Journal of Obstetrics*, December, 1913.

The occasional occurrence of ovarian neoplasms containing tissue which grossly and microscopically appear identical with that of the thyroid gland has been noted by numerous observers. In the majority of instances the thyroid-like tissue is but one constituent of a more or less complex teratoma, but in a few instances good sized ovarian tumors have been encountered, consisting almost entirely of this. The writer reports in detail two cases representing these two types.

From the study of these two cases and an extensive review of the literature, he arrives at the following conclusions:

1. In certain ovarian tumors there occur areas of tissue which cannot be distinguished histologically from that of the thyroid gland.
2. There is no sharp dividing line between tumors of a complex teratomatous structure containing among numerous other elements a small amount of thyroid tissue and those composed solely of this. All of these tumors are of similar genesis; *i.e.*, teratoma. The large majority of these tumors are clinically benign, the few which are malignant show,

in most instances, areas of unmistakable irregularity in their cellular structure or give other histologic evidence of a destructive type of growth.

This thyroid tissue is of no functional significance, at least in the vast majority of cases, and these growths give rise to no symptoms other than those which would be produced by any type of an ovarian tumor of equal size.

## PATHOLOGY AND BACTERIOLOGY

Edited by Harry S. Bernstein, M. D.

*On the Significance of the Submiliary Myocardial Nodules (Aschoff) in Acute Rheumatic Fever.*

WM. THALHIMER and M. A. ROTHSCHILD. *Pathological Laboratory, Mt. Sinai Hospital. Proceedings of the New York Pathological Society. Vol. XIII, Nos. 5 and 6, October and November, 1913.*

Aschoff in 1904 described the microscopic lesion in the myocardium of cases of acute rheumatic fever, which he considered specific. He called these focal lesions the submiliary nodules of rheumatic fever. They occur most frequently in the neighborhood of small and middle-sized vessels and are composed of large cells with one or more abnormally large or slightly notched polymorphous nuclei, the cells being arranged in the form of a fan or rosette. Aschoff believed that the giant cells arose from the adventitial "Wanderzelle." Other observers believed that the nodules arose from connective tissue cells of the adventitia or the interstitial connective tissue of the myocardium. Fraenkel is of the opinion that even in the absence of the history of rheumatism, the finding of Aschoff bodies is strong presumptive evidence of a preceding rheumatic infection. The authors have studied forty-three hearts for the purpose of determining the presence of Aschoff bodies. Their conclusions are—

1. In rheumatic myocarditis foci termed submiliary nodules of Aschoff are present which are characteristic of the rheumatic infection.
2. They are most frequently found in the walls of the left ventricle, the auricles usually escaping.
3. The nodules were found in three cases of chorea without joint manifestations, proving the close relationship of this condition to rheumatism.
4. They were absent in fourteen cases of subacute bacterial endocarditis, variety streptococcus mitis (viridans).
5. Aschoff bodies are not always found in rheumatic carditis, where the infection antedates death by a long period, but the healed remains, represented by sclerotic patches (Schwielen), are present.
6. We would suggest that the cases of arthritis characterized by the presence of the "submiliary nodules of Aschoff" in the myocardium be placed in one group and called for the time being "rheumatism." Those cases with articular manifestations, yielding positive bacteriological findings and with absence of Aschoff bodies, should not be classified as "rheumatism," but according to the infecting organism.



*Experiments on the Cultivation of the Microorganism causing Epidemic Poliomyelitis.*

SIMON FLEXNER and HIDEYO NOGUCHI. *The Journal of Experimental Medicine*, Vol. XVIII, No. 4, October 1, 1913, p. 461.

The cultivation of the microorganism was carried out simultaneously upon fresh, sterile, or practically sterile, specimens derived from human beings and from monkeys experimentally inoculated, and upon glycerinated specimens from both sources. The brain, however, is preferred for the reason that it can be obtained more readily than the spinal cord in an aseptic state. The dura covering one of the hemispheres having been seared with a hot instrument is incised with sterile instruments and the underlying cortex scrupulously exposed. From this, a piece about two cubic centimetres is excised and placed into a sterile dish to be used subsequently for inoculation. It is advisable to make the initial inoculation with fragments as well as with emulsions or with filtrates of the nervous tissues. The culture medium used consists essentially of human ascitic fluid, to which has been added a fragment of sterile fresh tissue. In obtaining the initial culture, the exclusion of oxygen is necessary. But it is not essential that the inoculated tubes should be placed in an anaerobic jar. Into each test-tube is placed a fragment of sterile fresh kidney of the normal rabbit. A fragment of corresponding size of the cerebrum, or other part of the brain, is next added. Upon these are poured about fifteen cubic centimetres of sterile fluid and finally about four cubic centimetres of sterile paraffin oil. Some of the culture tubes inoculated, as mentioned, are placed in an anaerobic jar. These should not be disturbed for from seven to twelve days. Those not within the jar may be inspected daily. At the expiration of about five days' incubation a faint opalescence appears about the fragments of tissue at the bottom of the tube. This opalescence can be gradually diffused through the tube by gentle shaking, in the course of which it is observed that the turbidity about the tissue is really greater than is at first apparent. After another period of three to five days the opalescence first described extends into the upper portion of the medium. At the expiration of ten to twelve days, the diffuse opalescence of the medium begins to diminish as sedimentation sets in, during which minute, irregular particles form.

Cultivation may also be performed in a solid medium consisting of ascitic fluid and sterile rabbit tissue, to which a two per cent nutrient agar has been added. In this medium an initial growth has never been obtained, but once growth has been secured in the fluid medium, it is possible to transmit it to the solid medium.

The cultivation with fragments of fresh central nervous organs in ascitic fluid without the presence of sterile rabbit tissue has been accomplished, but it becomes necessary to transplant into a medium with the rabbit tissue. The Berkefeld filtrates of emulsified tissue also give rise to cultures, but less constantly than the original nervous material from which the filtrates were prepared. In a series of thirty-three

experiments an initial growth was obtained in nineteen instances, of which sixteen proved to be pure and three mixed cultures. Of these, pure sub-cultures were obtained thirteen times. In a second series, in which human nervous tissues were used, eight successful cultures were secured. Fluid cultures viewed under a dark-field microscope exhibit minute bodies, globular in form, hanging together in short chains, pairs, and small masses, devoid of independent motility and distinguishable with difficulty as a special class among the indefinite granules present.

Stained preparations, on the other hand, bring out unmistakable microorganisms grouped in the three ways stated and of very minute size. The staining may be accomplished by Giemsa and Gram. Smear preparations made from the lower layer of the ascitic fluid cultures and stained by Giemsa solution reveals the presence of a variable number of minute globoid bodies. In the fluid culture the pairs and chains predominate. The individual microorganisms average about two-tenths of a micron in diameter, the limits of visible bodies being fifteen-hundredths to three-tenths of a micron. From ten days to three or four weeks after the maximum growth has been obtained, certain metamorphoses or degenerations set in. Probably the enlarged and irregular stained bodies are to be viewed as degenerations, while the minute fragments at the limit of visibility may possibly represent a metamorphosis into a minuter variety with which submicroscopic forms may be associated. The globoid organisms are capable of passing through Berkefeld filters which exclude the usual test bacteria. Two series of inoculations in monkeys were made. These experiments showed that the inoculation of the cultures is followed by the appearance of the clinical symptoms and pathological effects characteristic of experimental poliomyelitis in the monkey.

From the facts presented it follows that by employing a specially devised method there has been cultivated from the central nervous tissues of human beings and monkeys the subjects of epidemic poliomyelitis a peculiar minute organism that has been caused to reproduce the symptoms and lesions of experimental poliomyelitis. The microorganism consists of globoid bodies measuring from fifteen-hundredths to three-tenths of a micron in diameter, and arranged in pairs, chains, and masses, according to the condition of growth and multiplication. The chain formation takes place in a fluid medium, the other groupings in both solid and fluid media. Within the tissues of infected human beings and animals the chains do not appear.

The microorganism exists in the infectious and diseased organs; it is not, as far as is known, a common saprophyte, or associated with any other pathological condition; it is capable of reproducing, on inoculation, the experimental disease in monkeys, from which animals it can be recovered in pure culture. And besides these classical requirements, the microorganism withstands preservation and glycerination as does the ordinary virus of poliomyelitis within the nervous organs. Finally, the anaerobic nature of the microorganism interposes no obstacle to its acceptance as the causative agent, since the living tissues are devoid

of free oxygen and the virus of poliomyelitis has not yet been detected in the circulating blood or cerebrospinal fluid of human beings, in which the oxygen is less firmly bound; nor need it, even should the micro-organism be found sometimes to survive in these fluids.

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*The Gonococcus Complement-fixation Test and Analysis of Results From its Use.*

B. A. THOMAS and ROBERT H. IVY. *Philadelphia: The Archives of Internal Medicine, Vol. 13, No. 1, January 15, 1914.*

Muller and Oppenheim in 1906 first applied the complement-fixation test to the diagnosis of gonorrheal affection. The method was amplified by Swartz and McNeil by the employment of a polyvalent antigen. They have proved firstly—"That the different strains of the gonococcus differ markedly one from another—so much so that the antibodies produced in the body by the toxin of one strain will in many instances not bind the complement in the presence of an antigen prepared from another strain. Therefore, if only one strain is used in the preparation of the antigen, a great many negative results would be obtained in positive cases; secondly—an antigen prepared from many strains fixes the complement whenever one of its component strains does so, and consequently the necessity of testing a serum against a number of antigens separately is avoided."

The technique employed is the same as that used in the Wassermann test. The preparation of the antigen, however, is of paramount importance. Swartz and McNeil prepared their antigen as follows:

"Various strains of gonococci are grown on salt-free veal-agar, neutral in reaction to phenolphthalein; twenty-four-hour old cultures are washed off the agar slants with distilled water and the resulting suspension is heated for two hours in a water-bath at fifty-six centigrades. It is then centrifuged and passed through a Berkefeld filter."

The authors' preparation, however, is made in the following manner:—Forty-eight-hour old cultures of the same six strains of gonococci, grown on blood-agar, are washed off in sterile distilled water; shaken for one hour; and autolyzed for twenty-four hours in a thermostat at the temperature of thirty-seven degrees centigrade and heated in a water-bath at sixty degrees centigrade for one-half hour. Before use, this antigen is diluted one to ten by the addition of eighty-five-hundredths per cent salt solution. The antigen marketed by Parke, Davis and Company has shown clean-cut results, probably because their antigen is made up from twelve strains of the gonococcus.

The authors have performed two hundred and four tests and have reached the following conclusions:

1. A positive reaction is invariably reliable and always denotes the presence of a focus of gonococcic infection.
2. A negative reaction frequently fails to determine the presence of disease especially in the acute and subacute stage when the disease is

limited to the urethra, and never when it is confined to the anterior urethra or vagina alone.

3. In no alien non-gonorrheal infections of systemic disease has a positive reaction been obtained; the test, therefore, appears to be absolutely specific.

4. A positive reaction has been found to be present in twenty-one and five-hundredths per cent of patients clinically cured. Such patients, therefore, should not be discharged from treatment or observation until a negative reaction has been obtained.

5. Not infrequently, either when suspicious lesions are presented or accidentally, positive reactions will be discovered in patients denying gonorrhea.

6. In only nine and nine-hundredths per cent of cases of acute and subacute antero-posterior urethritis has the complement-fixation test resulted positively. The earliest appearance of a positive reaction in a primary attack of posterior urethritis, without complication, occurred in the sixth week.

7. In a number of cases of chronic recurrent urethritis with acute exacerbations, the test was invariably positive—many of these patients undoubtedly had prostatitis.

8. The reaction resulted positively in one-third of all cases of chronic posterior urethritis; undoubtedly many of these cases had a mild or low-grade prostatitis.

9. In fifty-two and eight-hundredths per cent of cases of chronic prostatitis a positive reaction was obtainable.

10. Two-thirds of all stricture cases demonstrated a positive test.

11. In epididymitis a positive complement-fixation test was observed in eighty-seven and five-tenths per cent of cases. If, from the series, one case probably tuberculous, may be eliminated, and a time duration of five weeks can be imposed, the positive result in this form of disease has been one hundred per cent.

12. In arthritis, undoubtedly gonorrheal in character, positive reactions were obtained in one hundred per cent of cases.

13. In the diagnosis and differential diagnosis of pelvic disease in women, the gonococcus-fixation test is destined, unquestionably, to play an important rôle. We have been unable to obtain any positive results in uncomplicated urethritis, vulvovaginitis and Bartholinitis, and it would appear that the infection must ascend at least to the level of the uterus in order to produce a positive blood response.

14. Inoculations of gonococcus bacterin, antigonococcic serum, etc., may in themselves by the production of immune bodies be causes of positive reactions. How long these immunizing effects may endure is unknown, but we have observed patients, treated by immunotherapy who one year later demonstrated negative complement-fixation reactions.

15. Although the bacteriological demonstration of the gonococcus culturally is the only absolute method for its identification in chronic inflammatory processes, the method as a routine procedure is impractical and susceptible of many failures and fallacious results, so that



the complement-fixation test is not only less laborious, but is productive of a higher percentage of positive findings.

16. Finally, we hope and trust that the complement-fixation tests in gonococcic infections, as the Wassermann reaction in syphilis, are demonstrating their reliability and value to the extent that they will be recognized as indispensable, so soon as the courts shall rule that each applicant for marriage licensure must produce a health certificate properly attested.

H. S. B.

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*Chronic Gastric Ulcer and its Relation to Gastric Carcinoma. Review of Six Hundred Eighty-four Specimens.*

WILLIAM CARPENTER MACCARTY and ALBERT COMPTON BROTHERS. *Mayo Clinic, Rochester, Minn. The Archives of Internal Medicine, Vol. 13, No. 2, February 15, 1914.*

The authors present the following conclusions as the result of the examination of six hundred and eighty-four specimens which were either excised or resected from the stomach.

1. Single and multiple chronic ulcers occur in the stomach.
2. Single and multiple chronic gastric ulcers occur with all the characteristics of simple ulcers plus the presence of carcinomatous cells in their borders minus the presence of similar cells in the bases.
3. Simple and multiple gastric ulcers occur which present the macroscopic characteristics of simple ulcer plus the presence of carcinoma in the borders and bases, indeed, with glandular involvement and metastases.

The association of these two conditions, gastric ulcer and gastric carcinoma, should be sufficient for every physician to consider the possibility of a chronic gastric ulcer not only becoming but actually being malignant. The question of differential diagnosis in such cases is often only decided by a cellular pathologist after the removal of the tissue and not by the clinician or surgeon. The microscope, which is the highest court of appeal, divides the specimens into three groups, namely, simple ulcer group, carcinoma group, and a doubtful group. Whenever the clinician feels positive of the clinical diagnosis of chronic gastric ulcer he should consider that carcinoma cannot be ruled by our present methods of clinical investigation.

H. S. B.

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*A Note on the Occurrence of B. Aerogenes Capsulatus in an Epidemic of Dysentery and in the Normal.*

SAMUEL T. OWENS *Journal of Medical Research, Vol. XXIX, December, 1913.*

The data reported were collected as part of an investigation of an epidemic of dysentery in the Worcester State Hospital, Massachusetts, during the summer of 1912. The tests were made for the presence of *B. Aerogenes Capsulatus* in the cases of dysentery occurring during the latter part of the summer, and on the cases of diarrhea which accompanied the epidemics, and also in a considerable number of normal

stools. The test employed for the recovery of the organism was that of inoculation of milk tubes which were then boiled and incubated. The gas bacillus grows rapidly in a milk tube in which there is a moderate cream ring. The tube is sterilized in the autoclave. Inoculation is then made direct from the stool with a platinum loop, and the tubes are put in a container of water, brought to a boil, and kept at a vigorous boil for three minutes. Following the boiling, the tubes are placed immediately in the incubator and examined at the end of twelve to eighteen hours. Three points are considered necessary for the diagnosis of the presence of *B. Aerogenes Capsulatus*; 1st, Coagulation of the casein with the inclusion of gas bubbles, *i.e.*, stormy fermentation with coagulation 2d.; Liquefaction of some of the casein with the production of a clear or only slightly cloudy whey, and, 3rd, a detectable odor of butyric acid. In twenty-six and six-tenths per cent of the series of dysentery cases, the stools were negative. In the series of hospital normal cases, eleven and seven-tenths per cent of the stools were negative. In the series of normal cases outside of the hospital, thirty-one and four-tenths per cent were negative.

Kendall's reports indicate that the milk tube test for gas bacillus in cases of summer diarrhea in children yields a negative result in cases in which *B. Dysenteriae* are present. In the adult the proportion of positive results from normals living under the same surroundings is greater than that of the Dysentery Series, while even in the Outside series the percentage was high and, considering possible error due to the relatively small number of this group, was close to that of the Dysentery Series.

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*Primary Hodgkin's Disease of the Spleen (Dorothy Reed Type).*

H. W. WADE. *Journal of Medical Research*, Vol. XXIX, December, 1913.

The author adds his case of Primary Hodgkin's Disease of the Spleen to that of another case in the literature described by Douglas Symmers. The author's case was that of a farmer, fifty-five years of age, who presented a tumor mass in the right upper quadrant. The white cell count was normal. Upon incision, the tumor was found to be the spleen which was attached at the hilum to the pancreas by a fibrous mass. Death occurred two years after operation. No enlarged superficial glands had ever been seen, nor was any mediastinal or abdominal tumor detected. On section, the spleen was found to be studded with discrete, yellowish white, firm fibrous masses. Microscopically, the most marked feature was the connective tissue increase. Numerous mononuclear giant cells were seen both within the reticulum and in the endothelial lined spaces. Multinuclear giant cells were not numerous. Eosinophiles were present in large numbers.

The author discusses primary tumors of the spleen, and is of the opinion that some of the reported cases of primary splenic sarcoma may have been unrecognized Hodgkin's disease. Some pathologists

consider that Hodgkin's disease may not infrequently undergo sarcomatous change, sometimes rapidly, and may then entirely overgrow and replace the original picture and be the only condition found on examination.

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*Tubercle Bacilli in the Blood Current. (Tuberkelbazillen im stromenden Blute).*

P. RANSTROM. *Deutsche medizinische Wochenschrift*, No. 33, August, 1912.

The author examined blood smears from centrifugalized blood, in which the corpuscles had been dissolved, in cases of pulmonary tuberculosis for the presence of the tubercle bacillus. At least ten cubic centimeters of blood were withdrawn from a vein in each case. Thirty-six cases in all were thus examined; and nine, or twenty-five per cent, showed the presence of acid-fast bacilli. These nine positive cases were all far advanced. The temperature curve of these cases was unlike that of the other advanced cases which yielded negative results. The temperature of the positive cases was characterized by periods of elevation, alternating with a normal and sub-normal course. Eight of the nine cases died and came to autopsy. In no single instance was there a condition of miliary tuberculosis.

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*Contribution to the Cultivation of the Parasite of Rabies.*

HIDEYO NOGUCHI. *The Journal of Experimental Medicine*, Vol. XVIII, No. 3, September 1, 1913. pp. 314.

Galtier and Pasteur demonstrated the infectiousness of rabies in 1881. Negri described the inclusions in the ganglion cells in 1903. Other workers demonstrated the filterability of the rabic virus, but the nature of the virus itself had remained unknown. The author undertook the cultivation of the rabic virus. Fifty series of cultivations were made with the brain or medulla removed aseptically from rabbits, guinea pigs, and dogs infected with "street" virus, "passage" virus, or "fixed" virus. The technique of culturing was the same as that used for the cultivation of the spirochaetae of relapsing fever. In the cultures, very minute granular and somewhat coarser pleomorphic chromatoid bodies arise which on subsequent transplantation reappear in the new cultures through many generations. The smallest of these bodies are just on the limit of visibility with Zeiss apochromatic two millimetre lens. On four different occasions the author observed in the cultures from "passage" and "fixed" virus, nucleated round or oval bodies surrounded with membranes totally different from the minuter granular bodies, although arising in the cultures in which the latter occurred. Their appearance was sudden and their duration four to five days. The cultivated nucleated bodies multiply actively by division or budding and exhibit the appearance not of bacteria but of protozoa. Under the dark-field microscope they show a nuclear centre and a highly refractive membrane. By inoculating cultures containing the granular pleomorphic,

or nucleated bodies, rabies have been reproduced in dogs, rabbits, and guinea pigs as shown by the typical symptoms and positive animal inoculations.

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*Bence-Jones Proteinuria in Leukaemia: A Report of Four Cases. The Effect of Benzol on the Excretion of the Protein.*

THOS. R. BOGGS and C. G. GUTHRIE. *Bulletin of the Johns Hopkins Hospital*, December, 1913, Vol. XXIV, No. 274, p. 368.

The occurrence of Bence-Jones proteinuria in multiple myeloma is well known. That it may occur in conditions other than myelomatosis has also been pointed out by various observers and the writers have recently reviewed the literature on this particular aspect of the subject. Leukaemia is one of the diseases with which the excretion of this unusual protein may be associated, but the phenomenon has been noted in only four instances, and only in the chronic lymphatic form of the disease, although many cases of all the various types have been repeatedly examined. In a series of fourteen leukaemic patients (acute lymphatic, two; chronic lymphatic, four; acute myeloid, three; chronic myeloid, five) which these authors have studied, the Bence-Jones body was found in the urine in four instances (chronic lymphatic, one; chronic myeloid, three). Since this is the first observation of Bence-Jones proteinuria in chronic myeloid leukaemia and also as it has been so rarely observed in any form of the disease, it has seemed advisable to Boggs and Guthrie to report the cases in some detail, especially since these cases seem to furnish additional evidence in support of the belief that a causal relationship exists between pathological changes in the bone marrow and the excretion of this protein.

It might be pointed out that so far as the authors were able to ascertain three of the cases reported are the first instances of Bence-Jones proteinuria in association with myeloid leukaemia. It has never been observed in the acute forms of the disease, either lymphatic or myeloid, and including the cases presented in this article, only eight times in the chronic varieties. The Bence-Jones protein alone was present in two cases of their series, while Morner's body also was present in the other two cases, as well as serum albumin in one case. The excretion of the Bence-Jones body was small in amount, which seems to be characteristic when it occurs apart from multiple myeloma. The chloride output was normal in one case, in marked difference from the condition found in two of the cases, and in the authors' cases of myelomatosis and carcinomatosis. Also in two of the cases the effect of the benzol treatment is especially noteworthy in that a marked reduction or eventual disappearance of the proteinuria and its associated polyuria, occurred, parallel to the diminution in the leucocytosis and apparent approach of the bone marrow to a more nearly normal condition. These cases furnish additional confirmation of the previously expressed view, that Bence-Jones proteinuria is not essentially dependent upon one disease, but is a manifestation of disturbances in the bone marrow affecting endogenous metabolism.



# ALBANY MEDICAL ANNALS

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## Original Communications

### THE PSYCHOSIS OF ADOLESCENCE.

*Read at the Annual Meeting of the American Neurological Association,  
held at Albany, N. Y., May 7th, 8th and 9th, 1914.*

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In the beginning of my practice in affections of the mind, the occasional appearance of a young man or young woman was not considered as presenting unusual problems. Difference of age was not assumed to be a fundamental factor in determining the symptoms, treatment or management of disease, and routine observation as then conducted revealed only the manifest evidences of disturbed mental function and was not concerned with interpretation or analysis. As time passed on and experience increased, certain peculiar symptoms, as katatonia, apraxia and the like, were observed which appeared to be limited to adolescent cases. These were then looked upon as curiosities, and later were found worthy of close study. They led to contemplation of the normal attributes of youth and brought to view characteristics not found at any other period of life. The sudden awakening of feelings and passions, redundant energy, rapid mental processes, scintillating wit, as in plays upon words and phrases and unique association of ideas; hopefulness and enthusiasm, vigorous and retentive memory, hasty decision, persistence to the point of obstinacy, scorn of obstacles, represents the attitude toward a world opening to the expanding vision as new and strange, and reveals a crisis in growth the significance of which is not to be underestimated. It is evident that the evolution of inherent traits determines the departure toward good or evil, and examples of mental destruction apparently

originating at this time, though really representing defect of development, are not wanting. But this is an occasional occurrence and is not always so. Appalling would be the outlook upon life if all cases of mental disorder in adolescence bore upon them the stamp of incurability, and yet the modern conception favors this belief. Superabundance of nervous and mental activity may be assumed to carry in itself possibility of disturbance, but implies as well power of recuperation. With the purpose of ascertaining how far this is true, and what significance, if any, may be attached to the symptoms, this investigation of the hospital records of patients between fifteen and twenty-five years of age has been undertaken. The limits of age are somewhat arbitrary, for, as Dr. Chapin tersely remarks: "Some persons are in an adolescent state when others have passed out of it—adolescent all their lives."

The symptoms characteristic of mental disease at this time of life are manifested in orderly sequence in the following extraordinary case, which gives an unusual opportunity for analysis.

Case 380 was that of a young man, aged twenty-five, native of New York, who had had considerable responsibility as foreman of a large gang of two hundred workmen. His family record and antecedent personal history were without blemish. In the autumn of 1903 he said that others were jealous of him and had charged him with misappropriating money; that he was being watched. During the winter he was obliged to begin work at an early hour and lost sleep. In April, 1904, he became restless and apprehensive, and during the week from April 20th to 26th, went from place to place to escape detectives and policemen. During the night of the 25th he slept on the grounds of a suburban residence some fifteen miles from his home, to escape arrest. He was found, slept at home during the day, and bruised his hand by forcing it through a window after he awoke. The night was restless, with frenzied outbreaks, in which he attempted to force his way through windows, and destroyed his bed-frame. On the following day he succeeded in breaking through the window and had the appearance of extreme terror of every one who approached. He then lay quietly, and was hesitating and evasive in replies to questions. He counted his fingers wrongly with each eye separately, and with both. He said he saw a black object on the wall (the flue face) but did not know what it was; a glass in the ceiling (the electric light) but could not name it; that he did not recognize his sister, but she must be his sister, because she said she was, although she did not look like his sister. He often required repetition of a question, delaying his answer, as if from suspicion, said he remembered nothing of what had happened, and when alone with his sister, asked what was the meaning of it all, and

what was to be done to him. Three days later he was quiet, but unreasonable and obstinate, and resisted all care, saying he was innocent, and asking to be taken to the chair that was ready for him. He was strong and vigorous for several days, and then became suddenly exhausted and emaciated quickly. On May 4th it became necessary to feed him by nasal tube and saline infusions were given. He responded. On May 12th he lost control of the lower extremities, which were limp and flaccid, without atrophy, and with increased knee-jerks but no ankle clonus, and without disturbance of electrical excitability. These limbs appeared entirely anaesthetic and analgesic, and there was loss of control of the sphincters. The upper limbs were not affected, except that he appeared indifferent to painful impressions upon them as well as upon the trunk, face and head. During the last week in May he was stolid and unresponsive, only occasionally answering questions. For several days he shouted repeatedly, "Put him out!" looking fixedly at what he said was a man walking around his bed. He again refused food and was fed with tube. He recovered from the paraplegia. On the morning of May 27th he began to strike the bed with his fists, rhythmically following one with the other. He watched others intently, and, if opportunity presented, made some sudden and impulsive effort, as attempting to strangle himself with the sheet. During the first two weeks in June he carried on a series of energetic automatic movements, consisting of rotation of the head from one side to the other, and striking the bed with his fists alternately, the movements of head and limbs accompanying one another rhythmically. The paraplegia returned, and on the morning of June 15th he was in a state of fixed cataleptic rigidity. This continued, but after a time was associated with the peculiar automatic movements somewhat modified. He did not strike the bed, but with the forearm partially flexed, carried the limb to and fro across the chest, in a sort of weaving manner, rotating the head as described at the same time. This state of catalepsy and automatism continued during his waking hours for about one year, when the automatism gradually grew less and ceased in May, 1905. He did not speak from May 23, 1904, to May, 1912. On June 22, 1904, he opened his eyes when approached, and signified his wants by motions. The tube feeding was continued until Thanksgiving Day, 1905, and he was spoon-fed from then until Thanksgiving Day, 1910, when he began to accept solid food, and there was relaxation of the rigidity. He then began to walk with assistance, but was prostrated by an acute febrile attack, lasting for two weeks, in which he vomited and fainted several times. It was necessary to return temporarily to liquid food. In May, 1911, he was properly clothed, and gave attention, for the first, to the care of his person. He sat at table with the family. The ability to walk returned suddenly. He indicated his wants by pointing to letters of the alphabet in newspapers and thus spelling out words for others. In June, 1911, he was given an automobile ride, and viewed places and buildings in Albany and Schenectady which had been constructed during his illness and which he had indicated his wish to see. He inspected critically an electric light instal-



lation in the house next his own. He shingled the roof of his house, writing his name on every shingle, trimmed the apple trees, and walked unattended about the village. In the early summer of 1911, he journeyed to Albany, unattended, had his hair trimmed and bought two collars. Afterward he made frequent trips to Albany, walked a great deal and made purchases, but never spoke. He met acquaintances who asked questions, and when he failed to reply, said "I didn't know you could not talk. What ails you?" He described this afterward. From June 1, 1905, throughout his sickness, he read newspapers, magazines and books, though at the earlier period members of the family turned the pages. On his recovery, in 1912, he told correctly all of the information he had read, and all that had been mentioned in his hearing during these seven years, even to dates. He was interested in automobiles, and an automobile was purchased for him. In May, 1912, he was viewing a neighbor's car in a garage. Two men were present. He was making signs with his fingers as was his custom, and it was noticed that his lips were moving as if to form words, but there was no speech. He walked home, entered the dining-room, and said to his sister, plainly and distinctly, and without emphasis or other change from his normal voice: "I think Dr. ——— likes our automobile better than he does his own." He then discussed its tank capacity and dimensions of the tires, and remarked that his watch had not been cleaned in twelve years.

He has since been normal in every respect. His weight, when the sickness began was 135; in 1914 it is 175 pounds. His cheeks are ruddy, and his actions and movements are alert and vigorous. There is no indication of the prolonged attack, which he never mentions, though from time to time he speaks of incidents which attracted his attention and comments upon them intelligently.

A resumé of this case shows a young man of unblemished family and personal history whose sickness was ascribed to the demands of too great business responsibility. The attack began with a prodromal stage of anxiety, which developed into suspicion and finally into apprehension. The outbreak was sudden and was manifested as a state of intense fear, with efforts at self-protection developed to a point of unreasoning desperation. The mental energy was at this time concentrated upon the fear, to the exclusion of any exercise of judgment or reason. As the agitation subsided, suspicion was still revealed by evasion and denial, until finally the patient ceased speaking and continued silent for eight years. Coincidentally with this cessation of speech were diminution of motor activity, and two short periods of paralysis of cerebral origin, associated with transient hallucinations, and loss of general sensation. The motor disturbance lost its voluntary character, changing to



rhythmical, automatic movements of the head and upper extremities, which gradually grew less and ceased at the end of a year. They were accompanied by cataleptic rigidity, which continued for six years. For one year he was fed mechanically by tube without offering resistance, and for five years longer he was fed by spoon. The steps of restoration were shown in resumption of one function after another, until the last one, speech, returned, in a peculiar and significant manner. The mimicry of speech by movements of the muscles concerned revealed the first attempt, followed shortly after by natural and successful accomplishment. This completed the restoration to health. Throughout this long attack of eight years there was full ability to receive mental impressions and to retain them: memory was perfect. In contrast with this was the inability to convert these impressions into logical action, and to inhibit or overcome involuntary movements, which became rhythmical and automatic as they represented the uncontrolled function of lower cerebral structures.

The inferences to be drawn from this series of events are, first, that the mind was overwhelmed by an imperative idea or fear, the ascendancy of which was gained during the abeyance of the highest of all mental functions, that of deliberate judgment; and, second, that further suspension of cortical function resulted in absence or perversion of motor energy. The receptive power of the brain was retained, as shown by the preservation of memory; the ability to form judgments and to execute, was absent.

Few of the functions of the brain are simple and direct, and its activities are not only manifested in the operations of organic life, but involve the higher realm of the mind, in which resides all that is peculiar and personal in character, by which the individual is distinguished from every one else.

The mind at adolescence is at the stage of evolution in which sensory and motor functions are most energetic and only slightly under the inhibitory influence of reason. Adolescence is a clearly defined epoch of life with characteristics entirely its own. The transient period between childhood and maturity, it is the real beginning of independent existence. The youth passes from the supervision of parents and the traditions of the family to engage in the struggle which will establish his position in

society and determine the success or failure of his life. Accustomed to guidance and protection, and reliance upon others, his processes of thought have been laid in certain lines. He is to prove the correctness or falsity of his training and to make the supreme test of his capacity and traits. He learns, for the first, of other ideals and other characteristics than have been familiar, and a new and broadening horizon opens before his vision. He discovers different aims and purposes, and ambition is aroused by the prospect of unsuspected rewards. An overwhelming multitude of opportunities beckons, and he responds with confidence and assurance which are at once the fascination of romance and the riddle of the epic of human endeavor. The possibilities of achievement appear boundless and the spirit to meet them is undaunted.

The physiological state of the brain at adolescence is essentially that of receptivity. It is still undeveloped, capable of registering and retaining new impressions, to remain permanently as memories. These acquisitions accumulate rapidly for future adjustment, and can only be assimilated by use and the added experience of later years. Physical conditions contribute to this evolution. Bodily growth and organic function are in excess, to meet the extraordinary demands upon vitality and to promote prompt recuperation. The age is one of spontaneous, vigorous and heedless action. Buoyancy, exuberance of feeling, extravagance of thought, impulsiveness and disregard of consequences are its mental attributes. There still lacks the culmination of the development of the mind, the faculty of discrimination, or calm and deliberate judgment, the exercise of reason, the presence of which marks maturity, or the complete evolution of the individual.

The cerebral mechanism which has to do with the operations of the mind may be expressed in terms of sensory impressions, motor impulses, and control and regulation of both. Normally a sensory stimulus acts promptly upon the centripetal structures, exciting the cerebrum, cerebellum or subcortical centres, wherein is a co-operating mechanism for control of the muscles. Such impressions at first enter the domain of consciousness, but, in time, frequent repetition of the same stimulus with its resultant effect upon the motor apparatus, establishes certain definite combinations, and automatic action follows without participation

of consciousness, so that the fully developed nervous system comes to possess fixed sensory-motor mechanisms. When unaccustomed sensations are received, and movements attempted, consciousness is again invaded, and engages in the resultant activities, for adequate co-ordination and expression. When a voluntary movement is undertaken there must first be a mental stimulus, second, integrity of the sensory-motor structures, and, finally, co-ordination of both. Certain activities, mental in origin, and central, thus become subconscious or reflex, without arousing the volitional exercise of the brain, and others, in proportion as they are new and strange, become conscious and are subject to voluntary control. These highest levels of cerebration, to adopt a Jacksonian phrase, are, respectively, thought and the expression of thought; the former being inhibitory, the latter a combination of inhibitory with reflex function.

Cases of mental disease must be investigated in their relations with the normal foundation which is disordered. New capacity does not develop in disease, but existing capacity is modified or diminished. Diminution of mental function is revealed by disturbance of the cerebral mechanism which has to do with thought and its expression. Disturbance of the capacity for thought is revealed by inactivity; limitation of thought by concentration or limitation of the mental field so that one idea or series of ideas dominates. A common manifestation of this is delusions, in which is recognized a loss of discriminating power. The absence of delusions in adolescent cases is not inconsistent, for the faculty of discrimination is as yet undeveloped. In the occasional instances in which delusions appear, they are disconnected, incomplete or absurd, in these characteristics resembling the delusions which appear in states of mental degeneration, as general paralysis and terminal dementia. In pronounced contrast with the absence of delusion is the existence and exaggeration of the sense of fear, often expressed in most intense form. Fear is the natural consequence of distorted action of the partially developed mind, and is often associated with extravagance of the allied religious sentiment. It is an imperative concept, a projection of sensory-motor mechanisms into the domain of consciousness, which is overwhelmed and limited to them. In older patients, imperative ideas are the exception, because trains of thought take unnatural directions; in younger patients trains



of thought have not been established, and the release of inhibitory control sets free subconscious activities. This general relation between consciousness and the sensory-motor mechanism is outwardly expressed through two channels, speech and muscular action. Loss of power to direct movements varies with the character and extent of the defect. If inhibitory force be entirely wanting, motor activities are in uncontrolled confusion. Irregularities of co-ordination permit a vast variety of manifestations. By combination of decreased inhibition and intense reflex action may be explained the common occurrence of the curious phenomenon of catalepsy. Here the inability to compel voluntary contraction of muscles is associated in extraordinary disproportion with the subconscious fixation of muscles in any attitude in which they may be placed. Analogous with this is the effect of voluntary efforts in initiating movements which persist, as sentinel-like pacing to and fro in a limited area, or repetition, over and over again, of the same phrases or phrases of similar import or sound. Other voluntary efforts are followed by movements the opposite of those intended, the result of misdirected innervation.

Such are some of the active demonstrations originating with the patient. The passive effects of stimuli from without yield corroborating evidence of deficient control by the higher cortical centres, in response to afferent impulses. If we elevate the arm of a normal person who passively submits, the arm falls immediately to the side when released. In many cases of adolescent mental disease the resultant movement is entirely different from that of health. In some, the limb, when released, remains for an instant in the attitude in which it has been placed, the patient looks up inquiringly, and then the limb drops slowly; in others the limb remains for a variable time in a strained and unnatural position, and then falls very gradually. The appearance of hesitation or uncertainty indicates retardation of mental action which has communicated itself to the muscles. When the patient is asked to shake hands, if he responds at all, after a short delay he pushes the limb out stiffly, awkwardly and quickly. There is slow comprehension, with a final violent effort to overcome the inertia. Motor peculiarities of this class are best typified by the response to the request to protrude the tongue. After a pause, and perhaps after several repetitions of the request, the



mouth is opened suddenly and widely, with an excessive grimacing contraction of the labial and facial muscles, but the tongue is not protruded; often it lies motionless, or, if repeated efforts are made, is withdrawn into the back of the mouth. In other cases it is thrust violently forward, sometimes to one side or the other, and the face may be turned away from the observer. In still other cases, no response is made, and the patient's appearance is that of one who receives no impressions.

From these observations, it appears:

*first*, that there is a tendency on the part of the patient to remain in whatever attitude or position he happens to be;

*second*, that when an effort is made to respond to a request, there is first a delay, and then an awkward, sudden and unduly energetic response; or, the violent effort is misdirected, some muscles are innervated too strongly and others not at all, the effect being a contrary or opposite movement to that attempted; or,

*finally*, no response is made at all.

It is, perhaps, superfluous to direct attention to the simplicity of these tests and observations. The acts desired of the patient are usual and common, and inability to perform customary and simple acts reveals so profound disturbance of function that more complicated examinations are not needed, and would yield little further information.

In general, the symptoms are respectively those indicating the spontaneous activities of the brain, and those which are responsive to external stimuli. The dividing line is indefinite, for many exaggerated and inordinately intense demonstrations result from slight, inappreciable and misinterpreted impressions from without. Whatever the manifestations may be, they are to be ascribed to limitation of the mental field. They may be grouped as follows in the order of their usual appearance: impulse of self-preservation, undue agitation, opposition, passivity and catalepsy.

When the higher realm of inhibition is defective and an imperative idea dominates, the subconscious or sensory-motor memories, deprived of control, become active, and the re-

sultant phase is that of excitement, with great motor unrest. Here the primitive sense of self-preservation is asserted; the patient sees hostility in every individual and every incident, occasionally corroborated by hallucinations or illusions of the special senses. The outward demonstration of this fear consists of acts of unreasoning violence, which gradually degenerate into or are replaced by automatic muscular movements, on the surface apparently purposeless. The agitation originating in this manner is shown in resistance to care, not infrequently associated with an idea of suspicion, bounding about from one place to another, sudden and explosive outbreaks of excitement and violence, impulsive, ineffective attitudes, destructiveness, repetition of the same acts, and rapid alterations in conception, as when there is a demand for food with ensuing refusal to take it. This obstinacy or contrariness, to which the inappropriate terms "negativism" and "negation" have been applied, may be the most obtrusive symptom, particularly in passive cases. One young woman who lay quietly in bed, manifesting no concern in herself or her surroundings, stated repeatedly that she felt a severe pain in her side, and then laughed; or asserted she wished an operation and refused examination; many patients refuse to dress or undress, others walk away when requested to approach. The condition is well illustrated in erroneous innervation of muscles, when facial grimacing is substituted for protrusion of the tongue, and other awkward and ineffective movements are made. These reach their highest exposition in the various degrees of catalepsy.

Absence of volition, or inertia, amounting to entire incompetence of execution was shown in Case 1150-2344. The process of feeding was accomplished in this wise: she was told to open her mouth, the food was placed on the tongue, and she was then told to swallow. It was necessary to repeat the instruction for each successive spoonful of food. When placed upon her feet and told to walk, she would ask, "How?" When instructed to place one foot ahead upon the floor, after a demonstration of the act, she imitated, remaining in this attitude until directed to repeat the step with the other foot, when she repeated the request "How?" and each evolution followed only the instruction and the demonstration.

These abnormal manifestations may be regarded as pathog-

nomic of mental disease of this period of life. In Case 380 is a classic array of symptoms. Their presentation is distinct and orderly. Each period in its completeness compels recognition. In striking contrast is Case 2288, now related, two weeks' time being sufficient to display in abbreviated form symptoms essentially the same.

Case 2288 was that of a farm hand, aged 19, and native of New York. Heredity and personal history good. In February, 1912, he said he had not felt well during the preceding summer, which was his first experience in work for another, that there was a weight on him, and that he was working under pressure. He manifested great mental activity, and discussed matters beyond his education, as the origin of the earth, theology, philosophy and the effect of great minds upon the thought of the world. He slept poorly. About February 20th he appeared nervous, exhausted and thin, and was argumentative and exalted. During the night of February 28-29, he rushed out of the house partly dressed, slammed the door so that he broke it, shouted, danced and sang on the road. He was overtaken and returned, when he stood in numerous attitudes with limbs fixed in "peculiar positions." On March 1st, he appeared in partly automatic state, standing before an open window with his overshoes on; and later lying on the bed with bits of matches and a piece of wire in his mouth. On the following day he passed through several different phases. He lay for two hours, motionless, as if feigning sleep, and as he aroused from this, first made "queer motions" with his hands, and then he shouted, thrashed a sheet in the air, and crouched on the floor in a corner. He refused food until evening, and then complained that food had not been given him. During the following night he sat in bed with head covered, and ground his teeth together. During the next week there were short intervals of apparent reason, with sudden outbreaks of excitement, and periods of rigidity and silence, with automatic action of the upper limbs. At one time he sat in a corner wrapped in a sheet; at another held a tray of food in one hand, and ate with the other; at another lay nude on the springs of the bed, with his head between the bar of the head piece. He danced upon a table and stood on a radiator or window sill singing, and occasionally stood nude in a rigid attitude. He slept nine hours on the night of March 7-8, and there was no return of symptoms. From March 9th to March 17th, he gained ten pounds in weight, and during the following summer was fully restored.

In January, 1914, he is in the employ of a railroad and is in perfect health.

In the following case the symptoms were less characteristically developed, and were associated with fragmentary delusions. Recurrences later in life emphasized the inherent tendency of a defective nervous system.



Case 459 was that of a dental student, aged 24, and native of New York. His father died insane, and his mother, later, in advanced life, became insane. He had had an injury to the nose which interfered with breathing. He had always been well-behaved, and an affectionate and considerate son. When twenty years of age he became anxious over his health, and brooded over the death of his father. At twenty-two he took up the study of dentistry and applied himself excessively, though it was suspected he was not entirely pleased with his choice of a profession. When twenty-four years of age, in September, 1904, he became restless at times at night, excitable, and threatened, but never attempted, suicide. The excitability increased, and in September, 1904, he manifested active mental symptoms, so that on the twentieth of that month there was a sudden violent outbreak. He attributed his condition to self-abuse, which he said he had practiced actively in earlier years, and stated that he had horrible dreams in his sleep; that he could not concentrate his thoughts or control his mind, and that he felt as if in a dreamy state in which all realities seemed far off and vague. He talked constantly of his condition, saying that he "knew he was going out of his mind," that he was to suffer greatly, and that medicine was given him to prevent his knowing his condition; he also said he "felt like doing something violent."

On September 25th he wrote the following letter to one of his physicians:

"I will not say it is the worst, God only knowing, thing that can happen to a person but to think that you are on the point of going crazy, when your mind is clear to other things, and it is too late to believe that you will go into heaven should you die or 'being practically dead in losing your mind.

"To think you will writhe out your life—I being in good strong health, mentally excepted—Only thing being that I know I masturbated in youth too much.

"I write this as I feel it should go to the medical profession and an example to the world. I think I have had too good a time in life and not did enough for Jesus, knowing that to those who are given much much is expected in return. I feel I know something of what a crazy person must suffer by the last two or three nights' suffering—wringing my hands and suffering as it is hard to explain.

"I was put into the world to do good and put things off, keeping saying 'Oh! there is time enough.'

"Ask the doctors who talk with me if I didn't know things about my past life, most any subject, in a sane manner.

"When you can only think of the terrible, isn't it an exceptional case? God alone knows how I have suffered. First, last night, I felt as if I were in Hell. I such awful feelings then I was in Heaven and I never was happier in my life.

"I feel that this case is an example to the world and God's way to send it.

"Being 2 years in a dental college therefore knowing something about drugs and actions, I realized how I was kept so I could remember things such as politics or any common thing of present doings.

"I cannot say I have done as my conscience told me during my life. I feel if I can convert any one by writing this letter I am doing God's work.

"I told Miss C—— my feelings this p. m. I tried to show her I was



given as an example of a sinner and hoped would be cause of repentance of some one or more than one, or words to that effect.

"I am satisfied God expected a great deal of me as he gave me opportunities such as sufficient means to educate myself and to give more toward furthering Christianity and relieving pain and give comfort to the afflicted than I did.

"If this makes a Christian of any one I know it is God's way.

"I feel that most all that read this will only laugh, and if not directed to some person might get thrown away and not even read or read with laughter. It would be different if I could not comprehend matters of most any subject. Ask Mr. V. of G—— if I am not rational on things in common. I got him to sharpen my pencil about 5 o'clock, that is in about middle of this letter, where you see it blurred & a —— made.

"P. S. I am not complaining. It is God's way and I hope for the best.

"I must address this to some one and I do to Dr. G. who I hope will make him, as well as anybody who reads this, to think more about doing God's work than I did, not putting things off as I did. I don't know anything as to Dr. G——'s relations God and helping make others comfortable and throwing sunshine into the words, but simply must address some one so I do him thinking no letters addressed outside this building would reach destination.

"P. S. I don't want the world to think that masturbation was entire cause of my present condition. I did this for 2 or 3 years when about age of 12 or 15 years of age, or thereabouts, then excesses at night began and I went to Dr. L—— who gave me medicine and advice and when at U. B. excesses continued and I began worrying then went to Dr. H—— of U. E. faculty for advice and stopped worrying for a while, but later had I worried somewhat this summer—last part about getting married.

"But what also helped to bring on present condition was I studied pretty hard for finals and had nothing to do in summer but worry and I went about feeling, etc.

"You think strange of my writing but am sane, also had backache badly 10 years ago.

"I have finished and sane.

"L. S. W."

On the morning of September 26th, he lay upon his bed singing, jumped up suddenly, and knocked the panels out of the door with his fists, singing loudly all the while and shouting "I'm crazy." During the afternoon of the same day, he lay motionless in bed—"hardly moving a muscle"—with his eyes closed. At nine o'clock in the evening he rushed from his room clapping his hands and shouting "Help! help! I murdered my sister! I murdered my brother! I am crazy! Oh! that letter!" He then made noises resembling the barking of a dog and meowing of a cat. At one time he declared an electric battery was being used to kill him.

During this period he needed the greatest personal attention. He had frequent attacks of abdominal pain, which at times were relieved by the catheter, and at other times, were not due to ascertainable cause. In these attacks he pulled his hands automatically toward his body. Food was taken irregularly, and enemata were required; frequently the discharges were involuntary.

The restlessness and excitement continued until about the fifth of October, when he became quiet. He then passively accepted food and medicine, though at times he did not swallow. On October 16th he began to talk occasionally, and the following day wrote the following letter:

"MY DEAR MOTHER,

"When I left C—— I thought I was going to be there only little while, as I told Dr. L—— when we were riding about C—— I was going crazy he tried to talk me out of it and I could not concentrate my mind off of it.

"When up at sanitarium they would only give me liquid food after first night and they tried to make me confess to a Miss C—— and I could not make that one confession. I was stubborn ever after and when you were here I heard you cry and I told W—— that I could not see you. I could hear you cry and could not reason as my mind was crossed over and I was crazy.

"They gave me ether I thought and I would have spells just opposite of what I meant.

"I had those religious spells trying to convert people and all I could talk was religion.

"I thought they were torturing me when we were crossed over and then they kept me crossing over and I crossed over with several people and I am innocent of all this awful talk because they kept me crossing over and that walk I took with B—— that p. m. before I left home I had awful pains in my head and I know I must suffer but could not talk too much as I never tried to kill anybody on purpose but knew the world would not believe it. I think and know they are turning me upside down but I know I must suffer as it is darkness when they turn out electric lights I am blind but did not know it. I see all too late. Good-bye, Mother."

On October 26th he sat out of bed for a short time, and grew stronger and more self-controlled day by day. A month later he was dressed and about, and began reading. During the winter he was well-behaved, clean, cared for himself, and manifested no active resistance. He continued quiet and listless, not very observing, and on one or two occasions showed some restlessness, irritability, and dejection. He was almost invariably silent, and acted with hesitation as if he were in doubt or did not know what he should do.

In December he occasionally answered a simple question, but with an effort. There were periods of exhaustion, without evident exciting cause. In the late spring convalescence was fairly established and he eventually regained his health.

He abandoned his original intention of practicing dentistry and chose an out-of-door life in the far West. In September, 1912, he was affected by the death of his mother, and was "more or less to pieces," but continued at work. In the spring of 1913, he "seemed to lose ambition, also interest in things, and had severe pains in the head and gloomy feelings." He ceased work and improved. In August his only brother died and he was again "set back." He had pain, "sometimes dull, sometimes more severe, and others itching. Reading seemed to cause dull pain. "My pains are on top of head and back and on sides over ears." In October he "felt blue," and after a brief accession of symptoms in November reported himself as restored, and as having gained ten pounds in weight. He is married and has a healthy boy of five years.

The recapitulation of this case shows a young man of impaired family record, who was somewhat over-conscientious and affec-

tionate during his early life. Whether this amounted to a morbid tendency or not may be questioned. Later events justify the inference that he lacked the buoyancy of youth, which was manifested by the depression following the death of his father. There was also a hint of impaired vitality in the obstruction to breathing. He planned a career which was distasteful to him, and over-exerted himself in study. In his twenty-fifth year, after a short premonitory period of abstraction, he developed suddenly an attack of excitement, which appeared superficially to be characterized by great mental activity. Analysis of the symptoms, however, shows that the mental operations were limited to the fear that he would become insane, and a religious sentiment in which the idea of sacrifice and punishment was predominant. Associated with the fear was a sense of indefiniteness or unreality; he complained that his perceptions were vague and objects far off, as if he were in a dream. When he attempted to adjust the facts, he had lost the power of concentration and of the exercise of definite purpose. In a state of desperation he yielded to what seemed inevitable, and in a paroxysm of purposeless fury, shouted, "I am crazy," this outbreak being succeeded by an equally inconsistent state of immobility, followed by vocal imitations of a dog and a cat. At this point he wrote a letter, which showed the capacity of his mind to be limited to the fear of punishment for moral obliquity, alternately expressing his dread of insanity and weakness of religious standards. He attempted, somewhat disconnectedly, to say that he did not do "enough for Jesus," that he should be an "example to the world," and closed with an appeal to others to follow a religious life.

Ten days after writing this letter his excitement subsided, and he wrote again, in retrospect, revealing the sense of indefiniteness in the following phrases: "I thought they were torturing me when we were crossed over, and I crossed over with several people and I am innocent of all this awful talk because they kept me crossing over . . . I think and know they are turning me upside down . . ."

The excitement was followed by a period of listlessness, inactivity and silence, in which he was passively obedient, accepting food and medicine, though at times he did not swallow. This



continued, in gradually decreasing intensity, for several months, until health was restored.

These symptoms may be summarized as an initial dominating feeling of fear, with defect of judgment, shown by inconsistent, impulsive actions; followed by general suspension of mental activity, and passive obedience. The religious idea of punishment suggests delusion, which was, however, incomplete, only partially systematized, and was subordinated to the dominating panic of apprehension. As in Case 380 the period of excitement was relatively brief, the greater part of the attack being characterized by apathy. Incompleteness of cerebral function was revealed by the dreamy state, the unreality, the "crossing over," and being "turned upside down."

The neuropathic tendency was definite, and is shown in the return of symptoms in after years, on causes relatively slight. This inherent taint explains the recurrence and may explain the modified symptoms of the first attack, which were, however, characteristic of adolescence.

The unstable conditions of youth are the essential cause of disease, and permit recurrences during that period. In the following case the tendency is shown in two distinct and severe attacks, followed by permanent recovery.

Case J. R. The patient was a boy of eighteen, native of New York. He was said to have had cerebro-spinal meningitis when four years of age, from which he apparently had made a perfect recovery. He was a bright and studious boy of excellent habits. During the autumn of 1888 he became interested in the political parades, and was "out marching almost every night." During the Christmas holidays he manifested extraordinary religious zeal. He attended different Catholic churches and prayed for hours at a time. He told his father that the neighbors were extremely wicked and he must pray for their salvation. He did not sleep, had little appetite, and late in December became suddenly violent, saying some one was coming to take him away. He saw a cross in the heavens, and also a harp; once he saw two angels standing by the cross. He talked of freeing Ireland, and became incoherent in speech. He shouted and screamed and could not be controlled. In this condition, on January 3, 1889, he was admitted to the Utica State Hospital. He then said the physicians and priests at home had tried to make him crazy, but he had held on; that he had been bothered by the Devil during the summer, but had not seen him lately. On the following day he was quarrelsome and violent, and talked continually on religious matters. He fought fiercely against going out into the yard, and seemed to think that if he went there he would be shot. On January 7th he pounded himself



in the face and chest, causing swelling and ecchymosis. He explained that he did this to save others. On January 10th he was rather dazed and was placed in bed. Two days later he was up again and eating well. From that time on he was alternately noisy, profane and actively disturbed, and dull, stupid and untidy. At times he was cataleptic and was tube-fed. He continued in a catatonic state until the last day of August, when he suddenly aroused, ran about the dormitory, jumped upon the beds, laughed and threw a cup of water on an attendant. He did not speak, but wrote answers on a slip of paper. He conversed entirely by signs and by writing, explaining that he did not speak because he did not feel like it. On October 10th he attended a dance and was told by the nurse that she would not dance with him again unless he spoke to her. The following week he was told that he could not attend the dance unless he spoke; whereupon he protested very audibly, and continued to talk thereafter. He then convalesced rapidly, and on December 11, 1889, returned home, recovered.

On January 19, 1892, when twenty-one, he was received at the St. Lawrence State Hospital. He was said to have been affected for five months, but no history was given of his actual condition during that time. He was in a cataleptoid condition and was well nourished and fairly strong. There was no decided change in his condition for about six weeks, and then he ceased eating. He was kept in bed and fed with tube. He made no voluntary exertion, was cataleptic at times, and at other times held his limbs rigidly when any one attempted to move them. His eyes were closed, he apparently took no notice, and did not talk. His circulation was extremely sluggish and his hands were usually cyanosed. He began to take liquid food early in June, and in July accepted solid food, but did not talk or open the eyes. He was dressed each day after the early part of September, resisted care by holding himself rigid, and did not walk voluntarily or assist himself in any way. In December he occasionally opened his eyes and walked, but still resisted care. In January, 1893, he began to talk to one attendant, but to no one else. He also read occasionally, but did not improve physically, and soon became worse again, until it became necessary in May to feed him by tube. At that time he reached his lowest weight, ninety-four pounds. He improved slowly during the summer and autumn. In January, 1894, he weighed one hundred and twenty-six pounds, kept his eyes open much of the time, but did not talk, and resisted attendants, who pushed him about, so that he would take steps to keep his balance. On February 17th he was taken to a patient's dance, and it was necessary to push him along to get him there, but at the dance he suddenly began to talk and finally danced. He then convalesced rapidly, and left the hospital on March 30th, weighing one hundred and fifty pounds. After his recovery he said he remembered all that happened, and gave many facts showing this to be true.

On January 17, 1914, this patient writes as follows:

"My feelings at that time were that my friends were my enemies, and of course my imagination and my intellect could not work together, but all that time my memory was perfect. My general health is perfect, and

has been ever since I left Ogdensburg. I have a baby boy seven months old, but I had two other children, but they died; a boy two and a half years died with cerebro-spinal meningitis, and a girl seven years old died with diphtheria. I have been married ten years. The baby is very strong and healthy at present. \* \* \* I have been successful in my business in a small way. I do not use alcohol in any form, but I smoke good cigars and it doesn't seem to hurt me."

The general features of this case do not differ from those already cited. Intense religious feeling, accentuated by its associated idea of fear, and emphasized by transient correlated hallucinations, impulsive actions, profound stupor and catalepsy, with perfect receptivity and memory, are characteristic. There was, however, an intermission of nearly two years, in which the patient was in normal condition. The cause of the first attack was relatively trivial. He was permitted to become interested in a political campaign and his superabundant boyish enthusiasm was not checked. The over-exertion proved his undoing. No cause was given for the second attack.

The four cases cited at length may be regarded as representing four groups: (1) a long and complete type; (2) a short and complete type; (3) an incomplete type, and (4) a recurrent type.

Distinction between the predisposing and exciting causes of disease will be an unsettled problem as long as the factors of the former are enveloped in theory. Heredity and diathesis are invoked, often for want of better explanation. The absence of hereditary taint, so far as ascertainable with the means at hand, is a striking feature of many of this series of cases. In direct contrast is the abundant evidence of susceptibility of youth to disease. Activity of growth demands rapid assimilation and adaptation of nutrition to a highly complex organism. The lower orders of tissue are most rapidly formed, the higher more slowly. Susceptibility to infection is greatest in early years and is ascribed to the slight resistance offered by the blood and the nervous system, as shown by the prevalence of chlorosis, chorea, hysteria, and convulsions. Stimuli are impressed upon an excitable, partly developed, actively functioning, delicate and complicated nervous structure, whose only protection lies in rapidity of restoration. Conditions are favorable to disturbance of the wavering balance between health and disease, and the state of adolescence itself implies a predisposition beyond which it is

not necessary to seek a cause. In this may be found the explanation of the recurring cases, in some of whom a period of two or three years of health intervenes between severe attacks. The alleged exciting causes, overwork and overstudy, are insignificant. The real exciting cause may be sought in the failure of parent, guardian or preceptor, to comprehend the danger of excesses in mental and physical expenditure; and to guide the adolescent safely through the most critical period of life. That the error lies here may be assumed from the permanent restoration of many patients. Deductions from these conclusions justify faith that the mental attacks of adolescence may be grouped among preventable diseases.

The statistical result of this inquiry is surprising and encouraging. There were three hundred and twenty-two patients between the ages of fifteen and twenty-five years, including J. R., a patient of twenty years ago.

One hundred and ninety-three patients affected with other diseases or conditions are omitted from consideration. These cases are classified as follows:

- Epilepsy, fifteen;
- Hysteria and hypochondria, twelve;
- Feeble-mindedness, fifty-one;
- Drug addictions, alcoholism and dissolute habits, forty-six;
- Delirium accompanying general and surgical diseases, seventeen;
- General paralysis, one;
- Organic brain disease, two;
- Atypical mental cases, classified as eccentricity or degeneracy, seventeen;

Casual observation with incomplete records, thirty-two.

There remain one hundred and twenty-nine patients, of whom eighty-two were restored to health, nine died and thirty-eight are now under care. Of these thirty-eight patients, twenty-three give evidence of deterioration and are regarded as hopelessly demented; the remaining fifteen are under treatment with reasonable prospect of recovery. Of these fifteen patients, five are in a second attack, having each apparently recovered once. Of the patients restored four have had two attacks, and one died in childbirth two years after recovery. Present information



has been obtained of fifty-three of these patients.\* Of these fifty-three patients, who are in sound health at this time (except one who died, above mentioned) one has been well for twenty years, one for twelve years, two for eleven years, three for ten years, thirteen between five and ten years, two for four years, eight for three years, nine for two years, and thirteen recovered during the last year. Disregarding the fifteen patients whose cases are not closed, the percentage of recoveries is seventy-two.

From the foregoing the following conclusions are warranted:

The highest function of the mind is that of calm and deliberate judgment, expressed by purposeful speech and action. The cerebral mechanism for the expression of thought provides intimate association of the process of mentation with the voluntary direction of muscular movements.

Cerebral exhaustion is represented by imperfect action of this mechanism. Exhaustion of the higher mental sphere is revealed in limitation of thought, loss of voluntary control and extravagance of muscular action. Complete exhaustion of the co-ordinated mechanism results in suspension of mental and motor function.

In adolescence the mental faculty of judgment is imperfect because of limited development. Excessive use of the nervous mechanism at this time of life in those not strong results in a pathological state indicated by limitation of thought to fear, with faulty control of the motor mechanism, inducing sudden, meaningless or misdirected movements; and this, combined with defect of the motor mechanism itself, appears as catalepsy and allied conditions. Complete exhaustion of motor centers is shown in loss of muscular tone, which may become paralysis.

The pathological condition is essentially functional, and restoration may be expected.

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\* The task of ascertaining the present condition of these patients involved extensive correspondence, and to the patients themselves, members of their families, and physicians, I am placed in a heavy debt of gratitude. For assistance of this kind and other advice and comment I am laid under special obligation to Dr. Charles W. Pilgrim, who generously completed the arduous task of transcribing some eighty case records; to Dr. Harold L. Palmer, for a similar service; and also to Drs. William A. White, Charles J. Patterson, Maurice C. Ashley, John A. Houston, H. C. Evarts, Edward Joslin, Henry B. Gillen, Jesse Crounse, R. S. Moscrip, Robert G. Cook, Robert B. Lamb, Henry Hun and John B. Chapin.



The predisposing cause of adolescent mental disease lies in the vacillating and unstable nervous system of the period of life; the exciting causes are relatively insignificant.

The symptoms of adolescent mental disease are fear, imperative concepts of religious or sexual origin, senseless laughing, crying or anger, impulsive acts, automatic and rhythmical movements, incompetency of execution. These symptoms indicate suspension of function and are consistent with the existence of a state of cerebral exhaustion.

In a large proportion of cases the faculties of receptivity and memory are unaffected.

The critical period is between the fifteenth and twenty-fifth years. Intelligent guidance and training during this time may prevent attacks. Recurrence is not to be expected after the period of adolescence has passed.

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## ABDOMINAL SYMPTOMS.

*Read before the Saratoga County Medical Society at Mechanicville,  
March 31, 1914.*

By DOUGLAS C. MORIARTA, M. D.

*Mr. President and Gentlemen.*—During the past quarter of a century, the rapidity and perfection of the developments in abdominal surgery have been little short of marvelous. Previous to this time, only an occasional operator possessed the courage to attempt surgery in this region. Since the advent of asepsis, the abdominal cavity is entered with apparent impunity, for all purposes, and practically by every practitioner, with an amazing degree of safety. Simultaneously with these achievements, aseptic details and the operative technique have been perfected; while the old text-book symptoms, which were really terminal ones, have been replaced by those peculiar to the earlier pathological conditions. Thus living pathology has replaced the dead-house findings, which for years had been the basis of our deductions when diagnosing diseases in this region.

The art of the early and accurate reading of abdominal symptoms was not as keenly appreciated at first as it is to-day.

Twenty-five years ago, or less, the skill of an abdominal surgeon was estimated by the numbers of a particular operation that he had performed, regardless of the betterment of the patient or the ultimate outcome. A gynaecologist, who had not a thousand ovariectomies of which to boast, was not considered much of a surgeon. Imagine his fate to-day, in discussion before a body of surgeons, if numbers were all he had to offer!

Operative procedures have been so perfected, and the safety of the patient so fully assured, that neither of these considerations are the material factors they were a few years ago. We are now required to master the methods of determining the condition present, whether we can permanently relieve the condition, and whether the patient will be better and more comfortable (if not permanently relieved) by our procedures. In other words, we must know *why* we operate; and of equal importance is it to know *when* to operate. Procrastination in deciding to operate means, for one thing, that we have not confidence in our ability to diagnose the condition. If we are to be of real value to our patients, we *must* be ahead of destructive processes, metastases, and before our patients' resistance is lowered; for while, in the mind of the public, the single criticism of abdominal surgery is the mortality, the all-important thing to be considered is the future welfare of our patient. Delayed surgery is seldom conservative surgery; while, generally speaking, the boldest operator, who thoroughly knows his field, is the most conservative.

I am sure that the trend of surgeons as a whole is toward the doing of honest, conscientious work. Yet there is a class of operators, and capable operators too, who either have the financial side of their profession unusually developed, or else have very poor judgment. I do not intend to convey that any patient should be refused surgical aid, no matter how desperate the condition, if the procedure holds out any possibility of betterment. But I must most positively deprecate the methods of operators who, it would seem, lose sight of the hopelessness of surgical interference in late cases, with whom apparently the fee overshadows the situation. To illustrate this point I may refer to a case or two.

CASE I.—Patient had a carcinomatous mass, involving the entire breast and axilla, an absolutely inoperable condition; that is, the entire infection could not be removed, and I refused to operate. It was removed,

however, by a colleague, and the axilla cleaned out. Death ensued in less than three weeks.

CASE II.—A huge carcinomatous cervix, with general involvement of the adjacent tissues. The patient had had repeated uterine hemorrhages and was exsanguinated. The only thing possible to do was to cauterize the cervix to control the hemorrhages. The patient had seen a number of men, and their opinion corroborated my own. While she was under ether for the cauterization, at her request an exploratory incision was made, to confirm or deny our views that no radical procedures would now be of any avail. As was expected, all the pelvic tissues were found to be involved, and the incision was promptly closed. The cautery gave her relief, the flow ceased, and she picked up a little. She was told her condition which she was loath to accept as final. She then consulted an eminent surgeon, and he operated, notwithstanding the recent history, and removed the pelvic organs and quite a part of the bladder. She died in about four weeks.

CASE III.—A very prominent operator, who at the time to which I refer was president of our State Society, reported a case of pan-hysterectomy, and incidentally made the statement, that the patient had the grippe, involving the lungs, at the time of the operation. The writer asked if he approved of giving a patient ether for an elective operation, when such a condition was present. To which he replied: "No, I do not; but if I had not operated, someone else would."

Quite as wonderful as any feature in the development of abdominal surgery, have been the proper methods of procedure in acute septic conditions. Words seem inadequate to picture our successes in septic cases. From fatalities approaching nearly one hundred per cent., we have gone almost to an equal per cent. of recoveries. It is interesting to recall and compare our old procedures with our present ones. I am afraid that we do not appreciate fully that during this period of development, nature has exacted her toll.

In the early days, in septic cases, we irrigated the abdominal cavity with gallons of water, disseminating the poison through all the cavity, endeavoring always to remove a gangrenous appendix, using Clark's inverted position to favor absorption, Finney's evisceration and scrubbing of the intestinal surface to remove, as we supposed, the segregated toxins, literally removing nature's protective work in her effort to save the subject; we were, moreover, indifferent to the white blood count; and lastly, we used cathartics freely. Those who lived, in spite of our procedures, served as decoys for future surgical efforts in similar cases.

Now it is quick in and quicker out; there is no irrigation, no disturbance of adhesions, however tempting it may be to remove a presenting appendix; we use Fowler's elevated position to drain to a point where absorption is practically nil, Murphy's drip, Ochsner's anti-peristaltic ideas, no catharses, and have a proper appreciation of the significance of the white blood count.

The ability to read, early and accurately, abdominal symptoms, stands out, in my judgment, as an accomplishment of the highest order; and it is only possible through constant analyzing of the location of the disease, its probable etiology, pathology, and the physical symptoms and their comparison with the clinical history and the pathological findings at the operation.

Our failures are seldom reported. It is too much to expect of a man with limited experience, to analyze his cases before such a body as this, to show his repeated errors of judgment. Of course, later on in his practice, when his skill has been acquired and conceded, he speaks freely of his errors in his early cases, and with some emphasis.

When the average medical man attempts to diagnose abdominal symptoms, with operative interference in mind, it is not strange, nor at all to be wondered at, that perplexity overtakes him; for the same symptoms, or group of symptoms, are common to many diseases of the abdomen.

It would take a good-sized volume to enumerate all the points of differentiation in abdominal conditions that one must accept or exclude. So I have only attempted to outline my usual procedure in dealing with these cases.

When one has the possibility of surgery in mind, one must know the symptoms of medical diseases which may occur in the abdomen, as they must be excluded or differentiated from surgical lesions. We should proceed in a methodical manner. Start with the clinical history (when a careful preliminary study of the history of the condition is possible, it is of great value). You will appreciate that this applies only in elective cases. Follow the history with a careful inspection, taking into consideration facial expression, emaciation, cachexia, large veins, tumors, and the patient's decubites,—all of which are extremely informing.

Next should come palpation, the usefulness of which cannot be overestimated. Here a thorough knowledge of the anatomy



of the region is very essential, and of great diagnostic assistance. If possible, the patient should be prepared for the examination, and it is fortunate if the examiner has a reassuring manner, as these patients are very likely to be frightened at the thought of the procedure. The physician should go thoroughly over the abdomen, by deep as well as superficial palpation, and it is well to start in at a point that is not sensitive. He should have in mind growths, exudates, the abnormal size and position of organs, and the inguinal rings. The examination is not finished until the rectum has been explored, and if permissible, the pelvis through the vagina. As you are aware, we must occasionally administer an anesthetic before our examination can be satisfactorily carried out.

If I were to sound one warning, that, to my mind, is of great importance, it would be this,—don't fool yourself when estimating your findings. We certainly do acquire, through experience, a certain indefinable something, which we may perhaps call intuition, that often helps us to a correct conclusion. At other times, after a careful analysis of the situation, the symptoms do not check up with our intuitions.

The surgical conditions which we are called upon to diagnose are either acute or chronic. The acute are, of course, associated with a sharper inflammation, and may take on a more virulent aspect; though this might follow a chronic condition which had taken on a complication. Pain, sensitiveness, rigidity, tympanites, nausea and vomiting, are the cardinal symptoms, and always to be taken into consideration; together with temperature, increased pulse rate, and the amount of shock or collapse which may be present.

Pain is perhaps the most generally present of them all and may be either direct or referred. When the pain is direct, it is a blaze to the true condition; when it is a referred pain, however, and the etiology is not determinable, the situation is decidedly more complex. Pain in the region of the liver, excruciating in character, sudden in onset (perhaps in its cessation), referred to the right shoulder blade, without temperature, is probably gall stones. When the onset is more gradual, and the pain not so intense, with a degree or more of temperature, it is probably cholecystitis, with or without gall stones. And, if to this group of symptoms is added a rigor, the stone is probably in the common duct.

If the disturbance is of a slow onset, with pain mild in type,—or there may be only a general sense of distress in the upper right quadrant with prominent symptoms of indigestion, flatulency particularly,—the condition will often confuse us in making a positive diagnosis of disease in the gall bladder tract. This is so, because these same symptoms are often a manifestation of chronic appendicitis, Lane's kink, pyloric spasm, or adhesions about the coecum, and are often difficult of differentiation. Many times they are only cleared up on the operating table, and only then if the operator has made an ample incision which will allow him to explore the abdominal cavity.

Functional gastric disturbance must also be eliminated from this group, and it is done by exclusion; the one differential point is that while vomiting usually relieves the gastric condition, it never relieves gall bladder irritation.

In this same region we have gastric and duodenal ulcer. Pain in gastric ulcer follows closely the taking of food into the stomach, is referred to the upper right quadrant, and is relieved by emptying the stomach. In duodenal ulcer, the pain comes on from two to four hours after eating, is relieved by food, and is usually referred to the lower right quadrant.

In the upper urinary tract there is still considerable difficulty in the correct reading of the pathology, due to the fact that many conditions are almost symptomless, though they are very grave in character; while less alarming disturbances may be associated with marked pain and sensitiveness. Radiography has helped us to clear up a good many of these conditions. It is a fact worthy of note that there have been a number of cases of stone in the kidney reported that were clinically diagnosed on one side; while the picture would show it to be on the other side, or on both sides.

Murphy's percussion test is of value in acute inflammatory or pressure cases of the kidney, and he believes it infallible. Pain, from kidney lesions, is usually referred to the back and loin; and if a stone is in the ureter, to the end of the penis or labia. The pain, nausea and vomiting of Dietel's crises is diagnosed because the symptoms cease when the kidney is replaced.

Pain of sudden onset, sharp in character, associated with collapse and coma, is of pancreatic origin. I have never met a

case of this in my own work, but have seen three at the Mayos' clinic at different times.

Pain in a perforating ulcer of the stomach, duodenum, or intestines in typhoid, can only be correctly diagnosed when the previous history is studied. The same may be said of volvulus and intussusception, except the patient gives the history of a mass in volvulus, or of a mass accompanied by a bloody stool in intussusception.

The pain in acute obstruction of the bowels, practically from any cause, is referred to the umbilicus, and is associated with constant vomiting, first of the stomach contents, then bile, and finally fecal matter, with absence of stool and flatus.

Many text-books state that appendicitis is the easiest of all abdominal diseases to diagnose. My experience hardly corroborates this statement. I have many times diagnosed appendicitis, and operated, only to find a normal appendix; and while I hope to the contrary, I feel pretty sure that many of you have had the same experience. The statement is about on a par with the one that we so often hear, that there need not be any fatalities in appendicitis, nevertheless they are constantly occurring.

Pain, early in appendicitis, is likely to be high and general, settling down after a few hours over McBurney's point. Murphy states that the symptoms always occur in a regular sequence, namely, pain, nausea, vomiting, temperature, increased white blood count. With the same symptoms, in any other sequence, appendicitis can be excluded.

In diagnosing this condition, we must have in mind the reflex abdominal manifestations which are caused by central pneumonia, or pleurisy near the diaphragm; also contraction of the psoas parvus muscle, and acute unilateral haematogenous infection of the kidney. Both of the latter diseases have symptoms peculiarly like acute appendicitis. Dr. Young reported a series of seven cases of contraction of the psoas parvus muscle in the *Annals of Surgery*; October, 1913; and Dr. Foster of Pittsburgh reported a series of acute unilateral haematogenous infection of the kidney, at Providence, before the American Gynaecological and Obstetrical Society, 1913.

Rigidity gives us important evidence of internal trouble, as it is nature's method of protecting herself in inflammatory conditions.



Tympanites is a common condition of variable significance; its etiology is often difficult of interpretation; while again it will mask the other conditions. It is always one of the terminal symptoms in abdominal disease.

It is of course important to read all symptoms correctly. I would, however, especially emphasize the necessity of correctly interpreting the early ones, either in acute septic conditions, or in benign conditions that may later take on malignancy, if our patients' lives are to be conserved. I have often hesitated to accept, or at least to act upon, my own conclusions, when drawn from early symptoms. This is due in part, I suppose, to the possibility of error, which is greater than if they were pathognomic of the supposed disease. If we advise immediate action, based on what we believe to be the probable development of an alarming condition, and our advice is not accepted and the alarming condition does *not* supervene, we are open to criticism. It seems easier to wait and be sure, even to the detriment of our patients, than to stand adverse criticism. But if we do this, stop and think what it may mean. Consider the result of delayed action in fatty necrosis, strangulation of the bowels, gangrene of the gall bladder, perforation in typhoid fever, gastric ulcer, duodenal ulcer, hemorrhage in extra-uterine conditions, and, last of all, appendicitis. This latter, a subject on which volumes have been written, is more common than the others, though not more important. Even at the present day, the query "shall we operate" is often a vexatious one to answer. In my judgment, however, it is best to operate immediately, if the white blood count is normal or above. This is a statement easy to make, and it is usually equally easy to act promptly, if one has a hospital at hand with every convenience. But how about our colleagues, miles away, who must transport their patients, perhaps a long distance, in a wagon and then on a cot in the cars? These are important considerations to the patient and his family, who are usually reluctant to act if the symptoms are mild and of short duration. Then there is the added tendency, at this stage of the disease, to hope that "everything will come out all right," without operative measures. The result is that, while there is usually a correct diagnosis, there is delayed action, with a trail of anxious consequences.

The situation as a whole has improved; there are not so many



inoperable cases of malignancy; large fibroids and abdominal cysts have pretty generally been picked; while ruptured appendices, gall bladders, and late extra-uterine pregnancies are growing fewer. Many still wait, however, for the lump to appear in malignancy in the upper right quadrant before diagnosing a carcinomatous condition.

In conclusion, let us hope that we may all become able to differentiate these conditions early, have the courage of our convictions, and do our surgery when it will not only save the lives of our patients, but will leave fewer irremedial conditions behind.

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## THE MEDICAL INSPECTION AND EXAMINATION OF SCHOOL CHILDREN.

*Read before the Medical Society of the County of Dutchess, April 8, 1914.*

By PAUL V. WINSLOW, M. D.,

*Health Officer of Wappinger's Falls, N. Y.*

The different avenues through which humanity is being benefited are gradually becoming fairly well occupied when we consider the attempts to regulate labor, the great advances in public health work, the provisions made for the sick and needy, the endeavors to prevent rather than cure disease, the establishing of tuberculosis hospitals, and last but not least the passage of a law by our Legislature demanding the examination and inspection of every child in our public schools.

### LAW IS POSITIVE.

The law states that every child attending our public schools must at the opening of each school year present a health certificate signed by a duly licensed physician, and if this is not done at the expiration of thirty days after the beginning of school, the medical inspector or examiner for the school must do it. The examination thoroughly done is the most important part of this work, while the inspection of every child comes next. Examination and inspection are just expressions of different

degrees, examination meaning the complete examination of each, while inspection refers more to the periodic looking over of the children in a general way. Considerable tact must be exercised, and especially is this so in the primary department where strange faces and actions count for so much. It may possibly be that there will be many of these little folks whom it will be impossible to handle at just one sitting, so each case will of necessity have to be dealt with accordingly. It does not seem necessary to all of us for the children in our public schools to submit to a complete physical examination every year, especially where the examinations are made by the inspector for the school, for after making the examination he follows it up with numerous inspections and after a time gets to know each pupil under his care individually and is certainly in a position to know what to recommend without any great difficulty.

Of course, if a new inspector is engaged every year this idea would not work out so well, for in that case the new inspector will be obliged to begin the work over again. Every two or three years should be often enough for the health certificate to be made out, and I am sure that the saving to the taxpayers would be appreciated by them. To a great many people medical inspection appears to be very unimportant, but to those who have had experience in this work, proof of its value is not necessary for they know what it has done for the poor children in our public schools and the indirect good it has been to others. With a few modifications of this law it can be worked out effectually.

#### GOOD WORK DEMANDED.

In doing this work for our children, there must be thoroughness, system, and a deep sense of one's duty. Do not be satisfied to merely ask questions and put down the answers just as the child gives them to you, something like this: "Have you adenoids, John?" and then put down the answer "nop" or "yep," whichever it happens to be, and call that making examinations, but instead take a mirror, a tongue depressor and find out for yourself and then you can feel that you are doing what is fair to the child, the people who are employing you, and to yourself. An examiner who was in the habit of making this

kind of an examination had, on one occasion, his eyes opened, when he asked, "Who vaccinated you?"

"I was vaccinated two years ago by Mr. Smith, the minister in the Episcopal Church."

This was quite enough for that examiner, and after that he looked for himself.

These examination should be just as complete and thorough as any that we make for the insurance companies or do privately, and we should begin with the head, observing the condition of the sight, hearing, condition of the tonsils, nose, mouth, teeth, neck, thorax, abdomen, and extremities, and offer recommendations wherever they are needed, and not only offer them, but it is up to the medical inspector to see that they are carried out. With the co-operation of the parents, teacher, school nurse and medical inspector nothing should be left undone. Parents, as a rule, prize their children above everything else in the world, and it seems quite certain that the majority of parents will do what they can for their physical improvement if they are shown how to apply the remedy. However, there will be some who will not do as the school examiners suggest, and this is no more than is to be expected, for opinions differ. Here is the opportunity for the school nurse who above everyone else, if she is faithful to her duty, represents the most important factor in the carrying on of this work to its ultimate success and efficiency. The school nurse once employed is enough proof what she can do for good. She is employed in a great many of our cities and will be in the country just as soon as her real worth is appreciated. All recommendations from the examiners should be communicated directly to the parents and not through the teacher or child as is often done. The examiners are at the foundation of this great work, and if they don't do their work thoroughly and systematically how can they expect the other people who are concerned to do theirs.

#### HOW INSPECTION DETECTS.

The results of our examinations will vary from the normal to the decidedly abnormal. To this latter class will be found the mentally deficient (imbecile, moron), those with tuberculosis, hereditary syphilis, weakened and undermined constitution. These mentally deficient children have long been the bug-

bear for the teacher, and it is high time that special provision with special instructors be supplied for them. They must be removed from the regular school room classes, for there the time will be poorly spent, and not only that, but they stand in the way of the other children's progress. In days gone by the teacher spent a great deal of her time trying to place knowledge in the heads of these unfortunates, and many a one has had the stick or famous yard rule played on his or her back because of the inability to learn. At the present date, however, a reason for this stupidity and backwardness has been discovered, and instead of being censured they are pitied and helped. The great problem before us is what shall be done to help them, so they may be at least semi-independent citizens and so they can get the greatest good out of life. There are numerous occupations that do not require much thought, and they might better be trained in doing something useful rather than to waste their time and that of others in the regular class, such as is done at the present time. Let us hasten to see their cause worked out. In the cities a great deal in this direction has been done and it is to be hoped that more will be done. My experience is rather small in this work, but out of the five hundred pupils that I have examined there have been several surprises. Out of every forty examined one was found to be mentally deficient. These figures applied to a city the size of Poughkeepsie would mean that there are at least one hundred who are mentally deficient. This number is large enough to demand the services of two people to see that these individuals receive the proper care and instruction, so that they may become of some use in the world rather than a burden. Active tuberculosis was found to be present in at least one out of every hundred and fifty examined. In this county provision has been made for the care and treatment of these cases, and it is hoped that every other community will likewise make provision for them. It is very important that these children in our public schools who are afflicted with tuberculosis should be segregated, for they are constant source of danger to the other children. I have succeeded in removing several of these children to the Bowne Memorial Hospital and have some more that are getting ready to go to that institution for treatment, and not only treatment but to be educated as well. One can't fully appreciate what this institution means to us until



we have need for it, especially for our children. Other diseases found in our public schools can be handled according to the individual needs of each case. The law states that no child with a contagious disease may attend school. Under this are diphtheria, scarlet fever, whooping cough, smallpox, measles, tuberculosis. With the exception of tuberculosis and whooping cough it isn't at all likely that any of these other conditions will be found very often to exist excepting in time of an epidemic.

#### CUT RATES ARE A FARCE.

An important issue in doing this work (medical) for our public school is the fee. This has been left out of consideration completely by the educational department, excepting that they say not over a dollar should be charged for an examination. This leaves the situation open so that a great many physicians, fearing that they would not get the work, have done it for as low as twenty-five cents, which is certainly a ridiculous price and goes to make the whole affair appear as a farce. If the law stated that one dollar should be the fee there would be some standard to go by and then there would not be this ridiculous cutting of prices. We must have uniformity in the charge for this work, and if it isn't worth a dollar it isn't worth a cent. It is hoped that the educational department will take this matter up and have the law changed so that we will have this uniformity. Nothing has given this work such a black eye as this cutting of rates.

In conclusion, I would urge that care be exercised in the examination of public school children; that the law requiring the health certificate every year be changed to every three years in schools where a medical inspector is employed; that the unfit (tuberculous, mentally deficient) be segregated, proper provision being made for their care and mental training; that a school nurse be employed wherever it is possible to do so; that a uniformity of fee be established which can only be brought about by a change in the present educational law, and finally, that recommendations of inspectors be communicated directly to parents.

## Correspondence

### LETTER FROM SWITZERLAND.

#### ARSENOBENZOL AND SYPHILIS.

GENEVA, April 16, 1914.

MR. EDITOR.—The cicatrizing properties of arsenobenzol manifest themselves with extraordinary rapidity and intensity in all specific loss of tissue. The granulomatous tissue undergoes a fibroplastic irritation, stimulating the collagenous function of the connective tissue elements and quickly causes the formation of a soft cicatrix. Such is usually the case but there are frequent instances of relapse of the primary sore. Gross, of Koenigberg, is of the opinion that primary sores in the vagina are more obstinate to the effects of 606, while Duhot of Brussels, considers the duration of the chancre, after administration of the drug, is from three to fifteen days. Generally, a single intravenous injection of sixty centigrammes is sufficient to obtain these results, but occasionally two are required.

At the clinic at Bordeaux two cases of primary chancre with high grade phimosis have been recently observed, in which surgical interference at first seemed necessary as the prepuce could not be pulled back on account of great contraction and ulceration, but the local lesions cleared up by the intravenous administration of 606 and the roseola vanished.

In the clinic of Prof. Sabrazès at Bordeaux, it has been found that the blood pressure is hardly influenced by the injections. Twenty-four hours after an intravenous injection it did not vary more than one-half to one cubic centimetre minus, so that this would seem to show that in syphilitic subjects whose circulatory apparatus is normal, the oscillations in the blood pressure are of little or no importance.

At the same clinic blood examinations show that there is a momentary decrease in the amount of hemoglobin and in the number of red and white cells ten minutes after the injection had been given. Six hours later, hyperleucocytosis and polynucleosis were manifest. After the lapse of three days a polycytemia, preceded by an increase in the granular red corpuscles, succeeded the hypoglobulia of the erythrocytes.

The resulting dilution of the blood from the intravenous injection and the aggressive character of the substance injected considered from the standpoint of the low vitality of the tissue elements, which consequently are in a more vulnerable state, can explain the negative phase of action of 606 on the blood. This is rapidly followed by an energetic stimulation of the hematopoiesis, the expense of which is more particularly sustained by the bone marrow.

Thus may be understood the improvement in the general health of these patients so frequently noted, and it may be admitted that arsenobenzol is indicated, aside from syphilitic infection, in the treatment of serious forms of anemia and various types of cachexia. The drug has already demonstrated its curative power in almost hopeless cases of malaria and in the syndroms of pernicious anemia.

From the standpoint of practice there is one conclusion to be drawn, namely, in a syphilitic all operative interference of a minor nature should be postponed until the results of treatment with arsenobenzol have been obtained.

The results obtained by 606 in primary sores at the clinic of Profs. Dubrenilh and Petges at Bordeaux can be readily seen by a glance at the following tabulated cases.

Patients with hard chancres treated as soon as the diagnosis was made:

1 patient.....	cure has lasted eight months
2 patients.....	cure has lasted three months
2 patients.....	cure has lasted two months

It is hardly necessary to add that the diagnosis of syphilitic chancre was verified microscopically. Three patients received two intravenous injections of sixty centigrammes each, while in two only one injection was given.

Patients with infecting chancre and secondary lesions:

3 patients.....	cure has lasted eight months
1 patient.....	cure has lasted seven months
1 patient.....	cure has lasted five months

In three of these patients two intravenous injections were given, while two received only one.

At the venereal clinic of the Antiquaille at Lyons, Nicolas and

Moutot have treated forty-eight cases of primary chancre resulting in a cure in from twenty to thirty days after one or several intravenous injections of arsenobenzol, but others who have been able to follow their patients have met with recurrences, thus proving beyond a doubt that the *therapia sterilisans magna* is, unfortunately, only a myth. For example, only to mention a few continental observers, Bering has had four instances of recurrence of the primary sore; Geyer, three; Matzenauer out of a total of nineteen, had two recurrences. Of a total of eleven cases of primary chancre, Bayet obtained eleven cures, but one case, that of a chancre of the eyelid, recurred later. Finger records six cases with two recurrences. Barrière tells of a case in which there were two recurrences in spite of two injections of the remedy and Guttman reports a quite similar instance. Heim had a patient who developed a chancre on the frenum after intercourse with a Hottentot in whom the sore rapidly disappeared following an intravenous injection of sixty centigrammes, but a recurrence took place twelve days later.

It is evident that one may well wonder whether some instances of recurrence may not, in reality, have been cases of new infection. Independently of Wassermann's reaction, bacteriological examination will, to a certain extent, confirm the clinical results. Given a patient with a primary sore treated intravenously with 606. His lesion disappears. Some little time later erosive syphilides are discovered in the coronary sulcus and microscopically Schaudinn's spirocheta is found. Such cases are, apparently, not uncommon according to statements made me by French and Italian observers.

The lymphnodes act differently according to circumstances. Bayet is of the opinion that softened glands diminish in size quite quickly, sometimes after passing through a stage of painful tumefaction. Hard lymph nodes take much more time to regress, while Brandenbourg maintains that the regional lymph nodes never completely disappear. At Frankfort, in the service of Prof. Herxheimer, a case was under observation in which the glands had completely disappeared although the chancre itself showed no tendency to cicatrize.

One point stands out clearly, however, from what information I have obtained during recent visits to various French



clinics, and those of Rome and Florence, where by the way, much good work is being done, especially in the latter city, and that is that the 606 treatment must be followed by a careful and prolonged course of mercurial treatment, the consensus of opinion favoring intramuscular injections, more particularly the gray oil and Hg. salicylat. in vaseline.

Very truly yours,

CHARLES GREENE CUMSTON, M. D.,

*Privat-docent at the Faculty of Medicine of Geneva.*

54 ROUTE DE FRONTENEX, GENEVA, SWITZERLAND.

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### Editorial

Spare me the whispering, crowded room,  
The friends who come, and gape, and go;  
The ceremonious air of gloom—  
All, which makes death a hideous show.

Nor bring, to see me cease to live,  
A doctor full of phrase and fame,  
To shake his sapient head and give  
The ill he cannot cure a name.

*A Wish.*

MATTHEW ARNOLD.



The meeting of the American Neurological Association in Albany on May 7th, 8th and 9th, was an important event in the medical history of the city. The Association is limited in membership and is the authoritative American body upon questions of mental and nervous disease. The meetings are held annually and only very rarely in other places than the larger cities. The choice of Albany this year may be taken as a compliment to Dr. Hun, the President of the Association, and under his guidance the scientific and social features of the program were carried out with unusual smoothness and celerity.

Among the important discussions was that upon the newer methods of treatment of specific disease in its effects upon the nervous system, which occupied the first afternoon of the meeting. The scope of this topic is well indicated in the following list of papers read at that time:

"Observations upon Spinal Fluid Cell Counts in Untreated Cases of Cerebro-Spinal Syphilis," by Dr. H. W. Mitchell, of Warren, Pa.

"The Rationale (?) of Intraspinous Therapy and its Effect on Syphilis of the Nervous System," by Dr. D'Orsay Hecht, of Chicago, Ill.

"Intraspinous Salvarsanized Serum (Swift-Ellis Treatment) in Syphilis of the Central Nervous System," by Dr. E. W. Taylor, of Boston, Mass.

"Recent Achievements in Syphilitic Diseases of the Nervous System: A Critical Summary," by Dr. B. Sachs and Dr. L. Strauss, of New York.

"Four Years' Experience with Salvarsan in the Treatment of Nervous Diseases," by Dr. Joseph Collins and Dr. C. Burns Craig, of New York.

"Results of Treatment of Syphilis of the Central Nervous System by Salvarsanized Serum," by Dr. Henry Cotton, of Trenton, N. J.

"The Treatment of Juvenile Paralysis with Salvarsanized Serum by the Intraspinous Method," by Dr. C. Eugene Riggs, of St. Paul, Minn.

"Paralysis Agitans Syndrome with Syphilis of the Nervous System," by Dr. Carl D. Camp, of Ann Arbor, Mich.

The topic was thus broadly and comprehensively treated and the contributions represent the present status of this absorbing problem. The conclusions to be derived are, in general, that relief of symptoms follows the salvarsan treatment or its modifications, but organic lesions remain. The difficulty in definite determination remains so long as there is no sharp dividing line established between cerebrospinal syphilis and the so-called parasymphilitic conditions of locomotor ataxia and general paresis. Some light was thrown upon this by Dr. William G. Spiller of Philadelphia in his presentation of the "Pathology of Tabetic Ocular Palsies."

The Surgery of the Central Nervous System received attention, more particularly in the advocacy by Dr. Alfred S. Taylor and Dr. J. W. Stephenson, of New York, of the operation of "Spinal Decompression in Meningo-Myelitis," in which some striking results and satisfactory recoveries from paralysis of spinal origin were reported. Dr. Charles A. Elsberg, of New York described "Puncture of the Corpus Callosum as a Decompressive Operation," giving the technique and arguments for preference of this method over the usual craniectomies.

Many other papers were read upon special personal investigations, revealing a high order of special study and thought.

The social features were not neglected. After the session of Thursday afternoon the Association traveled by automobile to the Country Club for the annual dinner, visiting *en route*, Pa-

vilion F. The members were the guests of President Hun at luncheon on Friday at the Fort Orange Club, and also at Lake Lonely, near Saratoga, at dinner in the evening, they were entertained by the same charming host. The trip to Saratoga was by automobile, and included a visit to the State Reservation.

The meeting was successful in every way, and remains as a pleasant memory of what may be done in Albany to promote the advance of science and of good-fellowship.

## Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.  
ABSTRACT OF VITAL STATISTICS, APRIL, 1914.

### *Deaths.*

Consumption. . . . .	33
Typhoid fever . . . . .	2
Scarlet fever . . . . .	0
Measles. . . . .	0
Whooping-cough. . . . .	1
Diphtheria and croup. . . . .	2
Grippe. . . . .	2
Diarrheal diseases . . . . .	3
Pneumonia. . . . .	15
Broncho-pneumonia. . . . .	6
Bright's disease . . . . .	16
Apoplexy. . . . .	12
Cancer. . . . .	18
Accidents and violence. . . . .	3
Deaths under 1 year. . . . .	24
Deaths over 70 years. . . . .	42

Total deaths . . . . .	193
Death rate . . . . .	23.46
Death rate less non-residents. . . . .	19.33

### *Deaths in Institutions.*

	Resident	Non-Resident
Albany Hospital . . . . .	14	10
Child's Hospital . . . . .	1	1
County House . . . . .	1	5
Homeopathic Hospital . . . . .	1	2
Hospital for Incurables. . . . .	0	0
Little Sisters of the Poor. . . . .	5	1
Public places . . . . .	3	0

	Resident	Non-Resident
Penitentiary. . . . .	0	0
St. Margaret's House. . . . .	3	2
St. Peter's Hospital. . . . .	8	2
Austin Maternity Hospital. . . . .	5	0
Albany Hospital, Tuberculosis Pavilion. . . . .	6	3
Labor Pavilion . . . . .	1	1
	<hr/> 48	<hr/> 27
Births. . . . .	153	
Still births . . . . .	7	
Premature births . . . . .	0	

## REPORT OF VISITING TUBERCULOSIS NURSE.

Old cases . . . . .	10
New cases . . . . .	18
Returned from hospital. . . . .	11
	<hr/>
Total. . . . .	39
Disposition of old and new cases:	
Died. . . . .	7
Sent to hospitals. . . . .	4
To general tuberculosis nurse. . . . .	2
Remaining under treatment. . . . .	13
Visits made . . . . .	64

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. . . . .	17
Negative. . . . .	36
	<hr/>
Total. . . . .	53
Living cases on record April 1, 1914. . . . .	330
Cases reported:	
By card . . . . .	50
Dead cases by certificate. . . . .	11
	<hr/> 61
Total. . . . .	391
Dead cases previously reported. . . . .	22
Dead cases not previously reported. . . . .	11
Removed. . . . .	17
Duplicates. . . . .	1
	<hr/> 51
Living cases on record May 1, 1914. . . . .	340



Total tuberculosis death certificates filed during April..... 33

Non-resident deaths:

Albany Hospital .....	1
Albany Hospital Camp.....	3
St. Margaret's House.....	2
St. Peter's Hospital.....	1
Labor Pavilion .....	1
	<hr/> 8

City tuberculosis deaths..... 25

BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	8
Scarlet fever .....	9
Diphtheria and croup.....	9
Chickenpox. . . . .	13
Smallpox. . . . .	0
Measles. . . . .	9
Whooping-cough. . . . .	9
Consumption. . . . .	61

Total. . . . . 118

*Contagious Disease in Relation to Public Schools.*

	Reported D. S.F.
Public School No. 2.....	1
Public School No. 15.....	2
Public School No. 18.....	1
Public School No. 21.....	1
High School .....	1
St. Ann's School.....	1
Number of days quarantine for diphtheria:	
Longest..... 56      Shortest..... 34      Average.....	44
Number of days quarantine for scarlet fever:	
Longest..... 23      Shortest..... 12      Average.....	17½
Fumigations:	
Houses..... 40      Rooms.....	194
Cases of diphtheria reported.....	9
Cases of diphtheria in which antitoxin was used.....	8
Cases in which antitoxin was not used.....	1
Deaths after use of antitoxin.....	1

BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive .....	11
Initial negative .....	189
Release positive .....	5

Release negative .....	27
Failed. . . . .	14
<hr/>	
Total. . . . .	246

*Test of Sputum for Tuberculosis.*

Initial positive .....	20
Initial negative .....	42
Failed. . . . .	5
<hr/>	
Total. . . . .	67

## BUREAU OF MARKETS AND MILK.

Public market inspections.....	11
Hide house inspections.....	3
Milk depots inspected.....	21
Milk depots deficient.....	3
Milk wagons inspected.....	41
Milk wagons deficient .....	7
Dairies inspected .....	1
Dairies deficient .....	1
Milk cans inspected.....	116
Milk cans unclean.....	8
Cows examined .....	8
Milk houses inspected.....	3
Milk houses deficient.....	1
Lactometer readings .....	9
Temperature tests .....	9
Fat tests .....	9
Below standard .....	1
Chemical tests .....	3
Sediment tests .....	8
Sediment found .....	5
Stores inspected .....	265
Stores deficient .....	37
Peddlers' licenses issued.....	71
Storekeepers' licenses issued.....	265

## MISCELLANEOUS.

Work certificates issued to children.....	20
Number of written complaints of nuisances.....	99
Privy vaults .....	8
Closets. . . . .	5
Plumbing. . . . .	21
Other miscellaneous complaints.....	65
Number of dead animals removed.....	572
Cases assigned to health physicians.....	77
Calls made .....	154

## Medical News

Edited by Arthur J. Bedell, M. D.

**ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR APRIL, 1914.**—Number of new cases, 251; classified as follows: Dispensary patients receiving home care, 23; district cases reported by health physicians, 3; charity cases reported by other physicians, 89; moderate income patients, 110; metropolitan patients, 26; old cases still under treatment, 183; total number of cases under nursing care during month, 434. Classification of diseases for the new cases: Medical, 37; surgical, 13; gynecological, 6; obstetrical under professional care, mother 60, infants 61; eye and ear, 1; skin, 2; infectious diseases in the medical list, 71. Disposition: Removed to hospitals, 25; deaths, 29; discharged cured, 137; improved, 50; unimproved, 17; number of patients still remaining under care, 176.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 4; nurses in attendance, 5; patients carried over from last month, 2; new patients during month, 4; patients discharged, 5; visits by head obstetrician, 3; by attending obstetrician, 0; by students, 32; by nurses, 53; total number of visits for this department, 93.

*Visits of Nurses* (all departments).—Number of visits with nursing treatment, 2,071; for professional supervision of convalescents, 692; total number of visits, 2,763; visits to pay cases, 1,035; to charity cases, 1,036; unrecorded visits, 692; cases reported to the Guild by 2 health physicians, and 51 other physicians; graduate nurses 7, certified nurses 2, and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 98; new patients, 157; old patients, 403; total number of patients treated during month, 560. Classification of clinics held: Surgical, 12; nose and throat, 6; eye and ear, 18; skin and genito-urinary, 9; medical, 13; lung, 9; dental, 0; nervous, 4; stomach, 4; children, 14; gynecological, 9.

**BUREAU OF HEALTH, ALBANY.**—Dr. Arthur Sautter, health officer of the city of Albany, has recently sent the following letter to the physicians of the city:

"Your attention is called to paragraph 382 of Article 20 of Chapter 619 of the Laws of New York, which requires all physicians to report their births, within five days after date.

"It is absolutely necessary to have the reports filed at this office on time. In the past, this has been neglected. In justice to the family and also to the child, it is of vital importance that this matter should be attended to promptly.

"Your co-operation is earnestly requested in order that proper returns may be made to the State Department of Health of all births occurring in the City of Albany and I trust you will give this matter your careful consideration and attention."

ALBANY HOSPITAL: THE NEW NURSES' HOME.—The new Nurses' Home at the Albany Hospital is ready for occupancy, and on May 23rd was opened to the public for inspection. It is regarded as one of the finest buildings in the country for its purpose. The old building will be converted into wards to meet the demand for increased service.

The building is of five stories and is of great beauty. The main entrance is on the Myrtle avenue side and leads to the basement where there is a beautiful reception room furnished in the latest fashion. On the left are the dining, lecture and recreation rooms, which can be turned into one large room for dancing. There is a movable partition which separates the dining room from the lecture room. When this partition is removed there is a floor space of 5,000 square feet. There are forty tables of oak in the dining room, which means that 160 can dine at one time. In the dining hall as well as the rest of the building, the finish is in fumed oak.

On the basement floor is also a parcel room, in which bundles can be left for the nurses; a telephone booth, housekeeper's room, trunk room, housekeeper's suite and the servants' living rooms, and a large serving kitchen. There are also two rooms in the basement—a small wash room which will be used by the nurses only, and a little kitchen which is fitted up for the making of dainties for any company the nurses may have.

Above the basement floor comes the mezzanine and on it will be found recreation and study rooms as well as an office suite for help.

The third is the main floor and can be entered from the main hospital building, there being a large corridor connecting the two buildings. The roof of this corridor is devoted to a roof garden for patients who are convalescing. Beneath the corridor there is a subway. From the main building through this corridor is a large eight-foot corridor, which is fitted up also as a lounging room. There are easy chairs and settees at every turn. The main floor is laid out in shape of the letter H, and on each side of the corridor there are rooms for the nurses.

Each nurse is to have her own room and each is fitted up with a dresser, a rocker, a straight back chair, a combined table and desk and a three-foot bed. The furniture is all of fumed oak, the bed being of iron. Each room has a large closet. There are 178 of these rooms on the five floors of the building, 150 being used for nurses exclusively, the others being for the help.

On the main floor is also a suite of rooms for the principal of the training. Connected with the suite is a bath room. There are also five large connecting rooms on the main floor, which can be used individually or collectively. This is so that any of the nurses can have company, using one of the rooms to entertain in. If they wish to hold a small reception they can use all five rooms.

All the floors are of concrete, covered with a preparation which makes them as quiet as possible. Each floor has two large lavatories. The





THE NEW NURSES' HOME, ALBANY HOSPITAL.

*Albany Medical Annals*, June, 1914.



fourth and fifth floors are about the same as the third, with the exception that they have only one reception room.

The cost of the building was \$170,000.

MCGILL UNIVERSITY, FACULTY OF MEDICINE, MONTREAL.—The Medical Faculty of McGill University will offer instruction to graduate students for a period of two weeks immediately following the close of the undergraduate session, from June 1st to June 13th, inclusive. The work will this year be essentially clinical and every facility will be offered for the study of the abundant material in the outdoor and indoor departments of the Montreal General and Royal Victoria Hospitals. The material in the new Maternity Hospital will also be made available for clinical study.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—The annual meeting of the Medical Society of the County of Albany was held at the Elks' Club, Albany, on Tuesday evening, May 13, 1914, at 8.45 P. M. The President's Address was delivered by Dr. James F. Rooney.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—The regular meeting of the Medical Society of the County of Schenectady was held at the Mohawk Club, Schenectady, Tuesday, May 12, 1914, at 8.30 P. M.

Scientific Program: "Recent Advances in Cancer Research," Dr. H. R. Gaylord, State Institute for the Study of Malignant Diseases, Buffalo, N. Y.

SARATOGA SPRINGS MEDICAL SOCIETY.—The regular monthly meeting of the Saratoga Springs Medical Society was held at the Business Men's Association Rooms, Saratoga, on Friday evening, April 24, 1914, at 9 P. M. A clinical meeting constituted the program.

The annual meeting and banquet was held at Newman's Lake House, Saturday evening, May 23, 1914. Dr. S. G. Gant of New York addressed the meeting on new society diseases—"Periocolitis, Diverticulitis and Myxorrhoea Coli."

AMERICAN PROCTOLOGIC SOCIETY.—The sixteenth annual meeting of the American Proctologic Society will be held at Atlantic City, N. J., June 22nd and 23rd, 1914.

AMERICAN OPHTHALMOLOGICAL SOCIETY.—The fifteenth annual meeting of the American Ophthalmological Society was held in Hot Springs, Va., May 12th and 13th, 1914. Dr. M. Hayward Post, of St. Louis, was elected president; Dr. George E. deSchweinitz, of Philadelphia, vice-president; Dr. William M. Sweet, of Philadelphia, re-elected secretary.

AMERICAN MEDICAL ASSOCIATION.—The annual meeting of the American Medical Association will be held in Atlantic City, N. J., June 22nd to 26th, 1914.

AMERICAN LARYNGOLOGICAL ASSOCIATION.—The annual meeting of the American Laryngological Association was held in Atlantic City, N. J., May 25th to 27th, 1914.

AMERICAN ASSOCIATION OF PROGRESSIVE MEDICINE.—The third annual convention of the American Association of Progressive Medicine will be held at Flander's Hotel Auditorium, St. Louis, Mo., September 8, 9, 10 and 11th, 1914.

MEETING OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION.—On June 22nd 9 A. M. the above mentioned association will meet at the Marlborough-Blenheim Hotel, Atlantic City, N. J., under the presidency of Dr. E. A. Vander Veer of Albany, N. Y. An unusually attractive programme is being prepared. Among the papers are the following:

President's Address, E. A. Vander Veer, M. D., Albany, N. Y.

"Relation of the Medical Press to the Cancer Problem," by Mr. Fred'k. L. Hoffman, statistician of the Prudential Ins. Co., Newark, N. J. (by invitation).

"The Things that Count in Medical Practice," by H. Edwin Lewis, M. D., New York.

"Ideal National Medical Journal: What it Should Be and What it Should not Be," by W. J. Robinson, M. D., New York.

"Two Problems of the Organization Journal: The Mediocre Paper and the Editorial Department," by Sarah M. Hobson, M. D., Chicago, Ill.

"Medical Journalism as a Local and as a National Proposition," by Thomas S. Blair, M. D., Harrisburg, Pa.

"Medical Books and Journals," by T. D. Crothers, M. D., Hartford, Conn.

"The Medical Periodical and the Scientific Society," by F. H. Garrison, M. D., Washington, D. C.

"Editorial Experiences," by A. L. Benedict, M. D., Buffalo, N. Y.

"The Special Medical Journal," by A. Bassler, M. D., New York.

"The Medical Profession and its Influence from a Buying Standpoint," by Joseph MacDonald, Jr., M. D., New York.

"The Preparation of the Original Article and the Editors' Latitude," by E. Franklin Smith, M. D., New York.

"He Among You Who is Without Sin Shall Cast the First Stone," by Erwin Reissmann, M. D., Newark.

THE AMERICAN SOCIETY FOR PHYSICIANS' STUDY TRAVELS.—A trip has been arranged by The American Society for Physicians' Study Travels to start June 26th from Atlantic City going to Philadelphia visiting the different colleges and other points of interest in the city, then to White Haven, Buffalo, Niagara Falls, Toronto, Montreal, Quebec, Portland, Boston, Saranac Lake, Saratoga Springs, and New York. The journey will cost \$180 and the trip will be concluded in New York City on July 16th.



**MEETING OF PHYSICIANS AND PHARMACISTS.**—A joint meeting of physicians and pharmacists under the auspices of the New York branch of the American Pharmaceutical Association was held at the College of Pharmacy Building, New York City, May 18th, at 8 P. M. The subject of discussion was 'Pharmacopeial Revision,' opened by Professor Remington of Philadelphia, Chairman of the Committee of Revision.

**LEGISLATION AT ALBANY.**—Governor Glynn has signed a bill appropriating \$50,000 as an emergency fund for the health officer of the port of New York.

The Christian Science bill which proposed to allow Christian Science healers to practice under the Medical Practice Act of the State has been vetoed by Governor Glynn. In the veto he said, in part, that the bill would have opened the gates to all kinds of medical pretenders, who, as a matter of fact, treat the sick without the use of any drug or material remedy, and who, if this bill were approved, would swarm across our borders and pretend to practice medicine on our citizens.

Governor Glynn has signed the Walter's bill relieving pharmacists, apothecaries and druggists from some of the restrictions of the labor law.

A bill designed to simplify the procedure necessary for the detention of weak-minded persons in State institutions has also been signed by Governor Glynn.

**DRUG BILL BECOMES LAW.**—Governor Glynn has signed the Boylan bill restricting the sale of cocaine and other habit-forming drugs. The bill not only aims to penalize those who sell drugs to victims of the habits, but also endeavors to protect the dealer against those who present false prescriptions by providing that the authority of the prescription must be verified if the prescription calls for more than four grains of morphine, six grains of codein or four drachms of chloral. The bill provides for labeling each package with the name and address of the physician under whose name the prescription is sold and the name of the person for whom it is filled. No drugs may be sold except on prescription and accurate data concerning amounts on hand and amounts sold must be kept. The bill becomes operative on July 1st.

**THIRD INTERNATIONAL CONGRESS FOR DISEASES OF OCCUPATION.**—The Third International Congress for Diseases of Occupation will be held at Vienna from September 21st to September 26th, 1914.

**UNITED STATES CIVIL SERVICE EXAMINATION.**—Dental Interne (Male).—The United States Civil Service Commission announces an open competitive examination for dental interne, for men only, on June 3, 1914. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position, at \$600 per annum, with maintenance, in the Government Hospital for the Insane, Washington, D. C., and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Applicants are required to be graduates or senior students of regularly incorporated dental colleges, and applications will not be accepted from persons who have been graduates for more than two years. The names of senior students will not be certified for appointment until they have furnished proof of actual graduation.

Statements as to training and experience are accepted subject to verification. Applicants must be unmarried. Age, 20 years or over on the date of the examination. No sample questions of this examination will be furnished. This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for Form 1312 to the United States Civil Service Commission, Washington, D. C., or to the Secretary of the United States Civil Service Board.

PERSONALS.—Dr. THEOBALD SMITH (A. M. C. '83), of Boston, Mass., Professor of Comparative Pathology of Harvard University, has been made director of the new department of animal pathology in the Rockefeller Institute for Medical Research, New York City. Our Alumni all know of Dr. Smith's work and wish him added honors in his new position.

—Dr. JOHN H. GUTMANN (A. M. C. '02), has removed from 223 to 329 State St., Albany, N. Y.

—Dr. EDDY S. HASWELL (A. M. C. '09), Albany, has removed from 347 Hudson Avenue to 496 Madison Avenue, Albany.

—Dr. HENRY A. LUCAS (A. M. C. '11), Albany, is now at 238 Clinton Avenue, Albany.

—Dr. MELVIN T. WOODHEAD (A. M. C. '11), has left Fort Plains and is now practicing at 123 Market Street, Amsterdam, N. Y.

—Dr. DOMENICO C. MAURO (A. M. C. '12), is engaged in active practice at Mechanicville, N. Y.

—Dr. RAY H. HUMPHREY (A. M. C. '13), has opened an office at Union, N. Y.

—Dr. NELSON K. FROMM (A. M. C. '08), Albany, N. Y., sailed May 16th, for nine months study in Europe.

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DIED.—Dr. HENRY H. CARPENTER (A. M. C. '59), surgeon of volunteers during the Civil War, died at his home in Lawrenceville, N. Y., March 30, 1914, aged 77.

—Dr. CHARLES HEMPSTEAD BURBECK (A. M. C. '59), died at his home in Troy, N. Y., May 9, 1914, aged 78.

—Dr. JOHN L. VAN ALSTYNE (A. M. C. '62), died at his home in Binghamton, N. Y., May 17, 1914, aged 74.

—Dr. FRANK K. ROARKE (A. M. C. '91), a Fellow of the American Medical Association and a specialist on diseases of the nose and throat, laryngologist to the Samaritan Hospital and consulting laryngologist to the Maternity Hospital of Troy, N. Y., died at his home in that city, April 19, 1914, aged 44.

# ALBANY MEDICAL ANNALS

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## Original Communications

### ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE—FORTY-FIRST ANNUAL MEETING.

The forty-first annual meeting of the Association of the Alumni of the Albany Medical College was held in the amphitheatre on Tuesday, May 26, 1914. The usual informal reception was held in the college library, where photographs were exhibited, and greetings exchanged between the hours of 9 and 11 A. M. The meeting was called to order by the President, Dr. George H. Janes ('93) of Westfield, Mass., at eleven o'clock.

The following named members of the Association, with invited guests, students of the college, and others interested, were present: Alfred B. Husted ('63); Charles F. Scattergood ('68); William H. Murray ('69); D. C. Case, Willis G. Tucker ('70); Daniel H. Cook ('73); Herman L. Chase ('75); David H. Lown ('77); J. H. Cotter, Charles A. Ingraham ('78); W. J. Nellis ('79); J. H. Mitchell ('81); J. B. Washburn ('82); Charles P. McCabe, Herbert L. Odell ('83); Robert Babcock, John V. Hennessy, George W. Holding, Hamilton Holliday, Luman B. Rulison, M. A. Wheeler ('84); Andrew MacFarlane, Charles H. Moore ('87); John Archibold, George G. Lempe ('88); J. Montgomery Mosher, F. S. Snow ('89); A. G. Root ('90); R. A. Heenan, LeRoy Becker, William G. Lewi, Clement F. Theisen ('92); C. H. Herrick, George H. Janes, Thomas Williams Jenkins, Thomas A. Ryan, P. G. Waller ('93); Henry Ward Briggs, A. J. Capron, Otis H. Deck, W. H. George, George W. E. Goodell, E. H. Goodfellow, O. E. Jones, Harry W. Luchsinger, J. R. MacElroy, James T. Park, Arthur Sautter ('94); Charles L. Myers ('95); John J. Beard, H. Judson Lipes ('97); Charles S. Prest, James F. Rooney, A. H. Traver ('98); Christian G.

Hacker, Eugene E. Hinman ('99); Arthur J. Bedell, Joseph A. Cox, Gerald Griffin ('01); Sylvester C. Clemans, James N. Vander Veer ('03); Charles W. Chapin, John Isaac Cotter, Thomas F. Cole, Bransen K. DeVoe, Malcolm Douglas, Thomas J. Dowd, J. B. Garlick, William E. Garlick, E. C. Haviland, W. G. Keens, George J. Jennings, George Spencer Lape, Harry Lovejoy Loop, R. J. O'Brien, B. J. Singleton, Edward A. Stapleton, A. W. Thomas, Chester E. Tracy, R. H. VanDenburg, Frank E. White ('04); C. W. Louis Hacker, Chester A. Hemstreet, Thurman A. Hull, H. M. Southworth, E. H. Vines ('05); Clinton B. Hawn, William A. Krieger, W. A. Reynolds ('06); J. L. Bendell, Tiffany Lawyer, J. H. Reid, William C. Treder ('07); Frank Garten, John J. A. Lyons ('08); Harry H. Drake, Orla A. Druce, Eddy S. Haswell, Burlin G. McKillip ('09); Charles Frederick Myers ('10); A. E. Wells ('11); J. H. Mitchell, Jr., Clarence E. Mullens, Homer H. Oaksford ('12); G. M. Clowe, Rufus B. Crain, Arthur Saul Katzenbogen, E. H. Ormsby ('13); E. J. Callahan, Edward J. Costelloe, J. Kenneth Crandall, George J. Culver, Daniel Sylvester Cuning, Frank E. Deeds, Samuel S. Fischoff, Frank C. Furlong, Clarence Gardinier, John T. Hopkin Hogan, William P. Howard, George R. Jordy, Harry V. Judge, Lawrence Jacobius, J. S. McCormick, William O'Connor, Robert Reid, Jr., Lewis J. Smith, Theron Smith, William Irving Walsh, C. C. Whittemore, Leon Wolff ('14).

On motion of Dr. James N. Vander Veer, the reading of the minutes of the last annual meeting was dispensed with and the minutes were approved as printed in the ALBANY MEDICAL ANNALS.

The President introduced Professor John A. Sampson, who delivered the following address of welcome on behalf of the faculty:

#### ADDRESS OF WELCOME.

#### DR. SAMPSON'S ADDRESS.

*Mr. President and Alumni of the Albany Medical College:* According to a time-honored custom a member of the Faculty of this College has welcomed you at this meeting. I have been chosen unanimously by the other members of the Faculty to address you at this time. My special fitness for the occasion rests in the fact that it is my turn. In behalf



of the Faculty I welcome you at this your meeting and invite you to be present at the graduating exercises of the Senior Class this afternoon, when your number will be increased by fifty-two new members. To-night we hope to meet you again at the annual dinner.

For many years the Albany Medical College has been, and still is, an important educational factor in this community. Over sixty per cent of the physicians of Albany, Troy and Schenectady are graduates of this College, and the same holds true of the nearby smaller places. It is safe to say that over sixty per cent of the inhabitants of this district are cared for by these physicians and from them obtain a greater part of their knowledge of medical matters. Its graduates have not only settled in this locality, but may probably be found in every State in the Union. The College has made Albany a much greater medical centre than it would otherwise have been. It has been influential in inducing not only many of its own graduates but also those of other colleges to practice medicine here. Many of the men who have taught in this College have through this Association greatly increased their own reputation and also their practice. The hospitals in Albany, Troy and Schenectady obtain their internes almost entirely from our graduates, and a large percentage of the attending men of these institutions are also graduates of the Albany Medical College. It is impossible to estimate the financial and other benefits derived directly or indirectly from this College by those teaching in it, by the other members of the medical profession in this vicinity, by our hospitals and by the community as a whole. The importance of this College to the City of Albany can be much more readily underestimated than overestimated. It is therefore natural and fitting that there should be a general interest in the College, and a special one on the part of its teachers and alumni.

You, the alumni, have a right to know what we have accomplished this last year, how this has been done and the future needs of the College.

The most important feature of our work this year will be completed this afternoon when the members of the present Senior Class become alumni of the College. The main and rightful purpose of any medical school is the thorough and complete instruction of its students. Two phases of this work present themselves: First, the proper instruction of those who should practice medicine, and second, the weeding out of those unfit for this profession. The final test of the thoroughness of our work comes in the State Board examinations and the success or failure, of those who pass, in their practice afterwards. The results of the State Board examination for this last year may be found in the last number of the *Journal of the A. M. A.* of May 23, 1914. In this report it is shown that of the thirty-two graduates of 1913 who took the examination, sixteen failed, *i. e.*, a percentage of failure of fifty per cent, while of the sixty-nine graduates of all years only twenty-one failed, giving a percentage of failure of 30.4 per cent. In order to lessen the percentage of failures in the future the Faculty have made a rule

that third year men cannot enter the fourth year class unless they have passed the first half of the State Board examination.

A very important change was made in our instruction this last year, whereby more clinical courses were given to the third and fourth year classes, and fewer didactic lectures. The available clinical material, not only in Albany, but also in Troy, was utilized. We believe that this will be of great practical value to the men, and, I understand, has been greatly appreciated by them. The students have been especially enthusiastic over the clinics held in Troy.

I hesitate somewhat to speak about the needs of the College because I realize that some may not agree with my diagnosis, and especially the suggestions for treatment. One of the most efficient forms of treatment is to do nothing, *i. e.*, "Let it alone," but to be effective this must be done at the right time. So also the best thing that one can often say is to say nothing at the right time. It requires greater medical and surgical judgment not to treat or not to operate than to actively interfere. What I am about to say is my own opinion except as others may share it with me, and I fully realize that I may be violating the principles I have just laid down.

Through the ill-health of one, the long service of five, the acceptance of positions elsewhere by two, and other reasons on the part of others, many members of the Faculty and teaching staff of this College have resigned. This leaves the Faculty, including the teaching staff, greatly crippled. I believe that the greatest need of the College at the present time is "special wisdom" on the part of those who control its Faculty, in order that the Faculty may be reorganized and its entire teaching staff properly chosen. The reputation of any college is but the sum total reputation of its teachers, and with co-operation and proper organization, this constitutes the real working force of the College and is of far greater importance than wealth and fine buildings.

One of the requirements in order to remain in Class A is that there should be six full-timed, paid instructors. We have met this obligation, but only with a great strain on the financial resources of the College and a personal financial sacrifice on the part of the members of the faculty who teach clinical subjects. What a great relief and blessing it would be to have one or more of these fundamental chairs sufficiently endowed, thus enabling us to obtain the best teachers available and leaving the money derived from our students for expenditures in other directions. It seems to me that the endowment of such chairs as anatomy, physiology and pathology is our second greatest need at the present time.

We are all agreed that a new laboratory building fully endowed would be very acceptable and a great asset to the College. It would enable us to more easily induce men to accept laboratory positions in this College, and would give them greater facilities for their work than they have at present. It is not necessary for me to present this subject to you for it has been and will be more fully presented by others. As

great as this need may seem I believe it is of secondary importance to the others I have mentioned. It is desirable for the College to have a new suit of clothes, but the kind of clothes never make the real man, especially if he has a serviceable working suit, even though it be somewhat humble and out of style.

As a fourth need, and possibly it should change place with the third, is that we should become more than a nominal part of Union University, thus adding to the reputation and stability of the Medical College.

Nearly all, if not all, of the better medical schools are controlled by the governing body of a university.

In behalf of the Faculty I again bid you welcome to the exercises of the day. In behalf of your Alma Mater and her future alumni I bid you all a careful consideration of their needs.

On motion of Dr. J. M. Mosher the thanks of the Association were tendered Professor Sampson for his address, and a copy was requested for publication.

Dr. John H. Cotter then moved that the President appoint a committee of five to nominate officers for the ensuing year. Carried. The President appointed as such committee: Drs. John H. Cotter ('78), Joseph D. Craig ('84), John B. Washburn ('82), Otis H. Deck ('94), and Charles A. Ingraham ('78).

The Recording Secretary presented the

#### REPORT OF THE EXECUTIVE COMMITTEE AND RECORDING SECRETARY.

Two meetings of the Executive Committee have been held during the year. At the meeting of February 13, 1914, Dr. Joseph A. Cox presented the report of the Committee in Charge of the Luncheon and Dinner of the Association on Alumni Day, May 27, 1913, and this report was accepted and filed. Dr. Babcock presented the following report of the treasurer:

Balance on hand .....	\$64 13
Received from membership dues.....	160 00
	<hr/>
	\$224 13
Expenditures .....	216 89
	<hr/>
Balance on hand .....	\$7 24
	<hr/> <hr/>

On motion of Dr. James N. Vander Veer, which was carried, the following named committee were appointed by the President to arrange for the exercises of Alumni Day: Drs. Vander Veer, Lewi, and DeVoe.

On motion of Dr. Vander Veer the following named committee were appointed to confer with representatives of the Trustees and Faculty of the College, to prepare a plan to collect funds for the proposed new College Building: Dr. George H. Janes, Dr. J. L. Bedell, Dr. J. A. Cox.

At the meeting of March 13, 1914, the Committee on the Alumni Day programme was authorized to proceed with plans for the Anniversary, and the Corresponding Secretary was authorized to distribute announcements for Alumni Day to include illustrations of the proposed new College Building. And the Committee was also authorized to take the means to acquire funds for the presentation of a memorial to Dr. Tucker, the retiring Registrar of the College.

Respectfully submitted,

J. M. MOSHER,  
*Recording Secretary.*

On motion of Dr. Branson K. DeVoe, the report of the Executive Committee was accepted and ordered entered upon the minutes.

The Treasurer, Dr. Robert Babcock, presented his report for the year, as follows:

#### TREASURER'S REPORT.

##### CR.

Balance on hand May 1, 1913.....	\$60 14
Dues received during year 1913.....	163 00
Total .....	<u>\$223 14</u>

##### DR.

Various bills paid for which vouchers are presented....	186 89
Balance on hand May 1, 1914.....	<u>\$36 25</u>
College Building Fund .....	<u>\$122 28</u>
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[Signed]

ROBERT BABCOCK,  
*Treasurer.*

On motion of Dr. Charles H. Herrick, the Treasurer's report was referred to an auditing committee, consisting of Drs. Charles H. Herrick ('93), Frank Garten ('08), and Henry W. Luchsinger ('94), who subsequently reported it correct. The report



of the Auditing Committee was received and the committee discharged and the report of the Treasurer was accepted and ordered placed on file.

Ex-President Tucker was then called to the chair, and President Janes delivered the following address:

#### PRESIDENT JANES' ADDRESS.

*Classmates and Brothers:* The Alumni of the old College are gathered again. From many places and by many roads we have come to our annual meeting; from great cities filled with rushing, strenuous life; from the quiet and peace of town and country side; from the lecture room, the laboratory, and the hospital; from private practice and from public work, we are here at the call of our College mother and her wish to see her sons again and gather them at her side.

We find her seated in her ancient chair of authority and learning. Despite her years, we see her cheeks glowing with the blush of morning and her eyes shining with the light of unchanging and perpetual youth. We walk once more the well-remembered streets and ways. We pass through the old halls and rooms. We meet the teachers at whose feet we sat in the years gone by. We revisit the old scenes, how often remembered in our absence, talk over the old times and, rare among life's pleasures, are young men and boys once more.

Some have strayed far from the old home and come today from far distant places. What miles we have travelled since we left. What scenes and experiences life had in store for us when we left the College gates to launch our frail boats on life's uncertain and treacherous seas. With what dreams of ambition, success and fame we faced the future. But when we sailed out into the unknown we left our *anchor* here. However far we might sail, over whatever strange and uncharted seas we might drift, this was our home port and our harbor.

Not all are here. Some of us are still in the sunshine carrying on life's work, day by day and year by year, though many a once youthful head has put on a silver crown; some, their toil done, have retired to the grateful shade; and some have lain down forever where darker shadows fall, and cannot hear the mother's calling voice. Our thoughts today, alas, how frequently, are of those who have gone; but only a shallow river divides the brothers and classmates that were and those who are. Their lives belong to us; and no saying is more true than that "a classmate never dies."

But we have not met today solely to pay homage and reverence to our College, or to congratulate each other on high and honorable achievements, or well-spent lives. It is not fame, or wealth, or success in any of life's practical ways which most deeply concern us on this occasion.

*Friendship* and not fame or success is the password here today, and only those who can give this countersign can enter our ranks. There is no voice so sweet and no greeting so dear as the simple and warm welcome of "Hulloa, Jim," and "How are you, John." There is not on earth a finer, sweeter pleasure than for old classmates to grasp each other's hands, hear each other's voices, and look once more, after all these years, in each other's eyes again. We drink from the long sought fountains of youth which burst from their secret and hidden places only at times like this. Again we stand at the portals of life's broad highway. How bright the sun, how blue the skies, how high and strong our hearts, how possible all things seem as we set out upon our journey. How far away are our misfortunes, defeats and death. How filled with young April are all our lives and hearts. The years vanish like an ugly dream and we are youths once more. It is the time to empty our full hearts of their blessings and their love.

It is not our achievements or success that stir our pulses, make the step lighter and bring back to the voice the tones and notes of youth; the things which do these are the sight of an old face, the touch of an old hand and the well-remembered sound of an old voice;—these, and not the builders' brick and steel, tie the world and race together. It is the friendship which knots us hand to hand and man to man that is the tie which change can never weaken and time can never bend or break;—that makes of the race of men one common brotherhood. "Old wood to burn; old wine to drink; old books to read and old friends to trust."

"Friendship," said one of the wisest and most human of the old poets, "is the sweetness of life, the solder of society; it is a sheltering tree; it is *Love without his wings*."

Said the old philosopher, Lord Bacon, calling over the quaint and forgotten remedies of centuries ago, "You may take sarza to open the liver, steel to open the spleen, castoreum for the brain; but no receipt openeth the heart like a friend."

All too soon we must separate, say, perhaps, the final good-by, return over the ways we have come and take up again the duties, trials and conflicts of life, to carry on our sacred ministry to sickness, suffering, pain and death. But we shall go forth with hearts renewed in faith, hope and strength through the renewed fellowship of this meeting, and with even higher determination and loftier courage than we had on our first commencements, to do our life's work in sincerity and truth, to play well the part of men and to fulfil the highest demands and standards of our chosen calling. We shall leave here with renewed and firmer loyalty to our noble profession and our beloved Alma Mater.

So with a health for our future and a sigh for our past, I bid you all to

"Stand by our old mother whatever befall,  
God bless all her children; and Welcome to all."

As President Janes concluded, Dr. Charles H. Herrick moved the thanks of the Association to him for his beautiful and appropriate address, incorporating in his motion a request for the manuscript, that it might be published in the ALBANY MEDICAL ANNALS as part of the transactions of the Association. Ex-President Tucker put the motion, which was unanimously adopted, and President Janes resumed the chair.

The report of the Historian of the Association, Dr. Bedell, was then presented and ordered entered on the minutes.

REPORT OF THE HISTORIAN, ARTHUR J. BEDELL, M. D.

*Mr. President and Fellow Alumni:* For a long time you have heard about the new college buildings, and each year you have been assured that actual work would soon be started. Now you know something has been done, for you have all received a cut showing the accepted plan for the new main building; the bids have been filed and active operations started, so that we may all look back upon the year 1914 as the beginning of the new college life.

Numerous changes have taken place in the Faculty. Many of our old teachers have for various reason resigned to make those whom they have trained take a more active part in the teaching of the students. Gentlemen of the Alumni Association, if you have any love for your Alma Mater stand behind the new men and help them to make the college stronger, better and more efficient.

Your historian believes that in the near future our medical school will become a real part of Union University. It seems to be the wisest plan. Do you all know that the Union University is fast regaining its place among the live schools of the country? If you are not aware of this, take the time to inquire; it will inspire you and make you see a brighter future for your college.

It was once said that we had no illustrious alumnus, but you have heard that our famous Theobald Smith of '83 is to leave Harvard to become the head of The Animal Research Department of the Rockefeller Institute, New York City. Study of our rolls would show many high in the ranks of those who are doing great and good work.

This morning we receive the Class of 1914, fifty-three men who have passed most stringent examinations and who have been drilled in daily contact with all sorts of patients. Their acts are to be recorded by the historian, and by their successes our school will be made the better.

Gentlemen of 1914, remember that your advancement is watched by your teachers who will always wish you well, and then, too, remember that we want to hear about you. Write a postcard when you are made attending man to your local hospital, when civic honors are given you, or in fact whenever you do things you would like to have the general Alumni and your classmates know.



## NECROLOGY.

During the year twenty-one of our Alumni have died:

Dr. ISAAC S. BECKER ('56), Altamont, N. Y., January 13, 1914, aged 83.

Dr. CHARLES M. SMITH ('58), Whitesboro, N. Y., January 27, 1914.

Dr. CHARLES H. BURBECK ('59), Troy, N. Y., May 9, 1914, aged 78.

Dr. HENRY H. CARPENTER ('59), Lawrenceville, N. Y., March 30, 1914, aged 77.

Dr. WALTER M. FLEMING ('62), Mount Vernon, N. Y., September 10, 1913, aged 75.

Dr. JOHN L. VAN ALSTYNE ('62), Binghamton, N. Y., May 17, 1914, aged 74.

Dr. DOUGLAS AYERS ('65), Fort Plain, N. Y., November 20, 1913, aged 71.

Dr. WILLIAM B. HOSTETLER ('65), Decatur, Ill., August 21, 1913, aged 70.

Dr. THOMAS A. REYNOLDS ('66), Kingston, N. H., December 12, 1913.

Dr. ELMORE S. ALBEE ('70), Bellows Falls, Vt., May 14, 1913, aged 65.

Dr. PHILIP T. O'BRIEN ('72), Plymouth, N. Y., October 31, 1913, aged 64.

Dr. GEORGE P. K. POMEROY ('78), Stuyvesant, N. Y., January 23, 1914.

Dr. EDGAR C. COLLINS ('80), Springfield, Mass., November 14, 1913, aged 55.

Dr. TERENCE L. CARROLL ('85), Albany, N. Y., November 9, 1913, aged 49.

Dr. OWEN F. McAVENUE ('87), Washington, D. C., January 8, 1914.

Dr. DENNIS M. SMITH ('88), Cambridge, N. Y., October 5, 1913, aged 66.

Dr. FRANK K. ROARKE ('91), Troy, N. Y., April 19, 1914, aged 44.

Dr. WALTER C. GILDAY ('94), New York City, May 31, 1913, aged 42.

Dr. FRANK J. CRUMMEY ('95), Los Angeles, Cal., December 17, 1913.

Dr. RICHARD F. VAN HEUSEN ('95), New York City, June 16, 1913, aged 46.

Dr. AUGUST J. FREUTEL ('02), New York City, April 28, 1913, aged 36.

Dr. Bedell then read the following letter:

BURLINGTON, VT., April 13, 1914.

*Dear Sir:* Your polite invitation to attend the Alumni banquet at the Albany Medical College this day received.

I'll thank you for remembering the oldest alumnus of the Albany Medical College, I suppose, as I know of no other in his 90th year. I graduated the 2d of June, 1855, at the Albany Medical College. I know of none of my class living, or of the two or three following classes.

I don't attend banquets; if I did, I should have attended the Loyal Legion banquet which came off last night in Burlington, of which I'm a member.

I'm writing this with my own hand, so you can judge of my nervous ability in writing. Very respectfully,

HARMON A. BUCK, M. D.



## CLASS OF 1844.

The members of the Class of 1844 were:

WILSON T. BASSETT, Cooperstown, N. Y., died January, 1905.

JOSEPH B. BROWN, North Tarrytown, N. Y.

PETER A. BRUMAGHIM, Scotbush, N. Y., died April 17, 1897.

BENJAMIN E. BUSHNELL, Little Falls, N. Y., died March 1, 1891, aged 80.

SILAS J. CHESEBROUGH, Syracuse, N. Y., died.

JACOB A. CROUNSE.

HORACE B. DAY, died August 24, 1870.

CHARLES B. GUNN.

EDWARD HALL, New York City, died December 10, 1898, aged 81.

RENSSELAER JEWETT, New York City, died March 7, 1890.

DANIEL LEWIS.

ROWLEY MORRIS.

WALTER MOTT.

JULIUS D. MUNN, Van Hornesville, N. Y., died May 5, 1890.

JOHN F. NORBURY, New York City, died January 13, 1895.

RENSSELAER OTTMAN, Carbondale, Pa., died January 28, 1912, aged 91.

WILLIAM S. PARKHILL.

HENRY C. POTTER, California, died April 4, 1909, aged 86.

JAMES RAWSON.

JAMES RIGGS.

ISAAC SCHERMERHORN, Stottville, N. Y., died September 11, 1887, aged 68.

A. E. SULLARD, Franklin, N. Y.

JOHN N. TAYLOR.

STERRY A. WEAVER.

## CLASS OF 1854.

The members of the Class of 1854 were:

O. C. ALEXANDER, Albany, N. Y., died February 9, 1910, aged 80.

SOLOMON W. AUSTIN, died 1897.

JAMES I. BAKER, Yaphank, N. Y., died May 6, 1886.

ADONIRAM J. BILLINGS, Freedom, Me., died.

WILLIAM C. P. BUTMAN, Macon City, Mo., died November 12, 1910, aged 83.

H. L. BULLIONS.

JONATHAN CASS, New York City, died January 20, 1896.

HEMAN CHAFFEE, Tolono, Ill., died May 22, 1900, aged 83.

S. CHAPMAN.

EDWIN R. CHASE.

LEVI R. CHURCH.

PELEG A. CLARK.

R. L. CUMMING.

CHARLES H. DARROW.

ESTIS H. DAVIS, Elmira, N. Y., died November 3, 1906.

JOHN C. DIXON, Candor, N. Y., died.

JAMES H. EATON, Syracuse, N. Y., died July 20, 1891.  
PETER FALING, Gasport, N. Y., died November 23, 1901, aged 69.  
T. B. FLAGLER, Bridgeport, Conn.  
LYMAN FORCE.  
AURORA W. GIDDINGS, Anoka, Minn.  
WILLIAM HAMILTON, died October 13, 1877.  
SAMUEL F. HANCE, Minneapolis, Minn.  
THOMAS HELME, McKownsville, N. Y., died March 17, 1889, aged 57.  
G. N. HUBBARD, Carthage, N. Y.  
RICHARD E. HUDSON.  
AMOS S. JONES, Dayton, Wis., died February 23, 1908.  
DOUGLASS S. LONDON.  
JOHN D. LEWIS.  
MULFORD MARSHALL.  
WILLIAM MURPHY.  
JOHN T. NEAL.  
BYRON E. OSBORN, Auburn, N. Y., died 1907.  
R. R. OWEN.  
NATHANIEL B. RICE, Chicago, Ill.  
HENRY PALMER, Janesville, Wis., died June 15, 1895.  
WILLIAM C. ROGERS.  
CHARLES H. SMITH, 246 Washington Ave., Albany, N. Y.  
HENRY F. SMITH.  
G. O. SPENCE.  
DUDLEY C. SPENCER, Augusta, Wis., died.  
RICHARD SUTPHAN, JR.  
GRANVILLE S. THOMAS, died July 11, 1902.  
SYLVESTER M. VAN ALSTYNE, died October 28, 1882.  
SUMNER C. WEBB, Homer, N. Y., died December 21, 1901, aged 81.  
HENRY B. WHITON, Troy, N. Y., died May 2, 1885.  
MARSHALL WHITESIDE.  
W. H. WOODRUFF, Pine Bush, N. Y., died November 30, 1896, aged 65.  
R. S. WRIGHT.

## CLASS OF 1864.

The members of the Class of 1864 were:

GIDEON H. ARMSBY, died November 20, 1881.  
HIRAM BECKER, Slingerlands, N. Y.  
GEORGE H. BOSLEY, Lakeville, N. Y.  
HORACE L. BOWER, Greenville, Mich.  
N. ROE BRADNER, Wissinoming, Philadelphia, Pa.  
HARVEY J. CHRISTMAN, Herkimer, N. Y.  
JAMES B. COCHRANE, Dover, Me.  
JOHN E. COMFORT, New York City, died May 29, 1901.  
JOHN H. DORN, New York City, died June 17, 1904.  
D. D. DRAKE, Johnstown, N. Y., died June 29, 1912.  
EDWARD F. EDGERLY, Mineville, N. Y., died June 23, 1889, aged 50.

- HENRY A. FRANCE, Far Rockaway, N. Y., died April 15, 1912, aged 78.  
 JAMES W. FREEMAN, East Saginaw, Mich., died May 3, 1909, aged 80.  
 CORNELIUS A. GROOT, Cato, N. Y., died August 6, 1897.  
 B. RUSH HOLCOMBE, Whitehall, N. Y., died 1908.  
 JAMES P. KIMBALL, U. S. A., died April 19, 1902.  
 J. LEAVITT LAMBERT, Hoosick Falls, N. Y., died.  
 HENRY LANING, Osaka, Japan.  
 DWIGHT M. LEE, Oxford, N. Y., died October 5, 1895.  
 JEHIEL LEFLER, Johnstown, N. Y., died October 23, 1911, aged 68.  
 LESLIE MARTIN, Baldwinsville, N. Y., died November 30, 1911, aged 69.  
 GUSTAVUS MCFADDEN, Vilas, Kans., died August 19, 1909, aged 91.  
 WILLIAM H. MCLEAN.  
 ROBERT H. MELIUS, died December 2, 1876.  
 W. H. H. MORRIS.  
 JOHN O'FLAHERTY, Hartford, Conn., died July 31, 1904.  
 LEWIS W. PENDLETON, Portland, Me., died.  
 BENJAMIN F. POPE, Surgeon-General's Office, Washington, D. C., died February, 1902.  
 CHARLES C. POWELL, Ottuma, Ia., died January 6, 1901.  
 JOHN RUSSELL, Denver, Colo., died October 28, 1908.  
 CHRISTOPHER C. REED, Rome, N. Y., died 1911, aged 72.  
 CHARLES SAFFORD.  
 FRANK A. SHURTLEFF, Somerset, Mass., died April 9, 1913.  
 CHARLES E. SPRING, died October 25, 1890.  
 J. T. ST. JOHN.  
 JOHN SWEENEY.  
 CHARLES B. TEFFT, 333 Genesee St., Utica, N. Y.  
 CHARLES H. TERRY, Brooklyn, N. Y., died January 18, 1912, aged 67.  
 GEORGE H. THOMA, Reno, Nev., died January 31, 1907.  
 ROBERT H. VAN PATTEN, Sterling, Kans.  
 HENRY P. VOSBURGH, Halsey Valley, N. Y.  
 TIMOTHY E. WILCOX, U. S. A., Washington, D. C.  
 HARRISON R. WINTER, Phoenicia, N. Y., died March, 1888.

Dr. H. E. Mereness, Historian of Class of '74, reports as follows:

#### CLASS OF 1874.

Dr. D. W. COLCORD, Seabrook, N. H., writes: "I will not be able to attend the meeting, living so far away. I am the same old hard working country M. D. Have had a very uneventful life. Lived well, done fairly well, and now at 64 years am quite smart, with outlook for a few more years of moderate toil. Seven years ago I cut down my field and am taking it quite easy, earning most of my money within a radius of  $1\frac{1}{2}$  miles, each way. I hope those who can attend will have a good time. I am glad a new building is going up for it is needed, and I want the place where I studied and graduated to compare favorably with any other.

What a long list of deaths. It surprised me, yet when I think it over I realized that it was 40 years ago I received my precious sheepskin."

Dr. A. W. FAIRBANK, Chazy, N. Y., writes: "Thought my view expressed in Albany would stand, which was in favor of December 22d. Regret I did not write before May 25, 1914."

Dr. D. R. KENYON, Sherburne, N. Y., writes: "There is reason enough in the first place. My name is not David, and in the second place I have an invalid wife who requires all my time and a good trained nurse. My wife had cerebral hemorrhage two years ago. My name is Dr. D. R. Kenyon. Let me hear from you again."

Rev. J. E. METCALFE, Watervliet, N. Y., writes: "Your line of a recent date is received. I have been hustling around for some days and ought to have replied to you before, but perhaps I am not too late now. In regard to the reunion, it seems to me that the 28th of May being so early, the thing would end in failure. If it is to be held, my opinion would be that it ought to be postponed until December. I hardly think there would be any confusion. But you doctors down there, fix it up as you may think best. This will probably suit the rest of the class. It makes me feel sad to think that so many of our old associates have passed away. It hardly seems possible. But even doctors are not immune—they all will sooner or later bow to the inevitable. At the same time there is great reason for gratitude to God, that so many of us are yet alive."

Dr. A. M. OLIVER, Voorheesville, N. Y., writes: "Your letter came to hand this morning. In reply will say there is nothing of importance to write you concerning my history from December 22, 1874, to present time. Am still practicing at Voorheesville where I commenced business January 1, 1875. I think we had better wait until fall or December 22d, so you see I am in line with you and Dr. Fairbank. I am in favor of a reunion."

Dr. J. H. TODD, Syracuse, N. Y., writes: "Yours about our class reunion received. I think myself December 22d would be more proper. However, I am with the crowd. From the lists I see our boys are sadly depleted and that those of us living are in the minority. My personal history is uneventful. Practiced about twenty years at Parish, N. Y., and the balance of the time here in Syracuse. Try to keep up with the profession and always have had an active life. Entered in everything that makes life worth living."

Dr. E. V. TRULL, Manchester, Vt., writes: "I am very sorry to say that it will be impossible for me to be at Commencement this spring. I find it more of an undertaking to go to Albany than it was twenty years ago, at which time it was a great pleasure, but now as I have to use a cane it is different. When I stop to think of the time gone by since we enjoyed



the hurry and hustle of life at the college it seems almost impossible to contemplate a period of forty years since we were students of medicine. I have enjoyed good health and have saved something for a rainy day, but although in active practice I feel the effect of a steady grind and the downhill side of life. In regard to a reunion, I think December 22d is the only date to be considered, although I may not be present at that time. I am compelled to use a cane in walking, which is a serious inconvenience when going out of town. About three years ago I tripped over an obstruction at our depot and injured my hip so severely that I was confined to the house for two months and will have to use a cane the remainder of my days. I am very glad to hear from you and to know that so many of the boys are still with us."

Dr. J. K. YOUNG, Johnstown, N. Y., writes: "Yours received a few days since. I am glad to hear some of the Class of '74 are in the land of the living. The first five years after I began practicing were spent at Rural Grove, N. Y. Have been in Johnstown for the past 33 years, have a fair practice and a cozy home, also a wife and two fine girls. The younger one is in the city hospital at Wilkesbarre in training for a nurse. Have had my ups and downs in life, but on the whole have no occasion to complain as I have not been laid up for repairs a single day in 39 years. I can hardly realize it will soon be 40 years since I hung out my shingle. I think December 22 will be the better time for the reunion and dinner. Hope I can be with you on May 26th."

The members of the Class of 1874 were:

EDWARD B. ATKINS, Saratoga, N. Y., died January 8, 1908.

CHARLES G. BACON, Fulton, N. Y., died August 18, 1906.

CALEB C. BEDELL, Troy, N. Y., died about 1888.

SOLON F. BLISS, Brooklyn, N. Y., died July, 1896.

J. LYMAN BUCKLEY, Sandy Creek, N. Y., died July 9, 1909.

ALONZO CHURCHILL, Utica, N. Y., died December 28, 1896.

DANIEL W. COLCORD, Smithtown, N. H.

DANIEL T. CONDUCT, Goshen, N. Y.

VALENTINE CORNELL, Cobleskill, N. Y., died August, 1876.

GEORGE F. DICKINSON, no address.

CYRUS ECKER, Chesterville, N. Y., died October 22, 1894.

ALEX W. FAIRBANK, Chazy, N. Y.

JAMES D. FEATHERSTON-HAUGH, Cohoes, N. Y., died October 21, 1903.

HARRIS I. FELLOWS, Albany, N. Y., died August 29, 1881.

HENRY W. GILES, Albany, N. Y., died June 5, 1905.

HENRY T. HAMMOND, Chase's Mills, N. Y., died March 11, 1892.

R. GRANT HAVENS, Schenectady, N. Y., died December 30, 1895.

EDWIN HOYT, Schultsville, N. Y.

DAVID HUGHES, died.

HENRY V. HULL, Coeymans, N. Y., died March 27, 1890.

DAVID R. KENYON, Sherburne, N. Y.

WILLIAM A. MALTBY, no address.

ANDREW MATTHEWS, Breakabeen, N. Y., died.

MATTHEW MCCLELLAN, Garratsville, N. Y., died May 24, 1887.

SAMUEL MCCLELLAN, no address.

JASPER MEAD, Feura Bush, N. Y.

HENRY E. MERENESS, 184 State St., Albany, N. Y.

JOHN E. METCALF, Watervliet, N. Y.

CHARLES T. MONTGOMERY, Saugerties, N. Y.

LUTHER B. NEWTON, Bennington, Vt., died May 2, 1906.

ALDEN M. OLIVER, Voorheesville, N. Y.

MILES J. O'REILLY, Fishkill Landing, N. Y., died at Newburgh, N. Y.,  
July 11, 1912.

JOHN PEASLEE, Schodack Landing, N. Y., died February 7, 1908.

FRANK PETERS, Cohoes, N. Y., died February 7, 1878.

JAMES M. PORTER, died September 12, 1876.

PLATT R. SAWYER, Bedford, N. Y., died March 31, 1885.

JAMES I. SCOLLARD, Clinton, N. Y., died February 20, 1903.

JOHN B. TODD, 740 S. Beecher St., Syracuse, N. Y.

EDGAR V. TRULL, Manchester, Vt.

JOHN D. WARREN, Medina, N. Y., died March 1, 1889.

ISAAC G. WHEELER, Buffalo, N. Y., died May 22, 1906.

ROBERT M. WHYTE, Kingman, Kan., died September, 1886.

WILLIAM J. WILCOX, no address.

THOMAS WILSON, Hudson, N. Y.

WYLLIS F. WOOD, Albany, N. Y., died April 11, 1901.

HIRAM K. WORDEN, Westmoreland, N. Y.

JAMES K. YOUNG, Johnstown, N. Y.

Dr. M. D. Stevenson, Historian, reported for the

#### CLASS OF 1884.

*Mr. President and Members of the Alumni:* Seventeen of the forty-three members of the Class of '84 have passed away since graduation. They are as follows:

EDWIN BOWEN, Albany, N. Y., died March 6, 1885.

CHARLES M. COE, Oswego, N. Y., died March 7, 1897.

CLINTON COOLEY, Montgomery, N. Y., died 1912.

PIERSON C. CURTIS, Round Lake, N. Y., died September 6, 1909.

FRANKLIN M. DEVOLL, Guilderland Centre, N. Y., died April 27, 1891.

JACOB M. FALK, died November 24, 1893.

DAVID J. FITZGERALD, Glens Falls, N. Y., died July 17, 1904.

JOSEPH A. FLYNN, Pittsfield, Mass., died November 24, 1892.

LOUIS A. HARRIS, 482½ Broadway, Newburgh, N. Y., died August 18,  
1907.

WINFIELD C. HUBBARD, Oakland, Me., died; date unknown.

HIRAM L. IVES, Lansingburgh, N. Y., died December 17, 1901.

ARTHUR A. JONES, Gloversville, N. Y., died June 1, 1886.

ELMER E. LANSING, Arsevut, Egypt, died June 2, 1893.

WILLARD C. MARSELIUS, Albany, N. Y., died December 24, 1893.

JAMES A. MCCOUGHLIN, Albany, N. Y., died February 12, 1896.

GEORGE H. TAMMANY, Asheville, N. C., died April 12, 1891.

EDGAR W. MOREHOUSE, Peru, N. Y., died May 12, 1902.

FREDERICK S. BLOSS writes that he has little or nothing that might be of any interest to relate in the way of class history. He began practice in Troy, N. Y., after graduation, and has been there ever since. He does general practice, of which he has his share of the work.

EDMUND A. BRONK says his history is unimportant. After graduation he studied general medicine, for about a year. September, 1885, he went to Amsterdam, N. Y., where he has remained. He married and has three children, two boys and one girl. His oldest boy is a fourth year medical student of Harvard. His youngest boy is a junior at Amherst. His daughter is a graduate of Mt. Holyoke College. He has a fairly successful business since he settled in Amsterdam.

F. RANDALL GREEN practiced a year and a half in his native town, Petersburg, N. Y., and then settled in Albany, where he still remains. Notwithstanding the high cost of living, he manages to keep from going hungry, and is relying on the dominion to keep him from going where A. M. C. graduates don't want to go. He is a widower and has one son twenty-three years old. He may not be able to get at the reunion for he expects the trout will be just beginning to bite in the Adirondacks where he goes each May, to try his hand at landing a few speckled beauties. He wishes each and every surviving member of the Class of '84 a peaceful old age.

G. W. HOLDING writes: Your favor of recent date received, and in acknowledgment would say, that I hope to meet with the members of the class Alumni day, May 26th. Have nothing of special public interest to report, other than being engaged, as usual, in general practice in the Schoharie Valley, pleasantly located, enjoying privileges in harmony with natural inclinations, which brings contentment with well being. Trust you will excuse delay, with best wishes.

HAMILTON HOLLIDAY writes: I expect to attend the class reunion May 26th. I never expected to be permitted to practice medicine thirty years, but during all that time I enjoyed the best of health, and am still at the business and expect to as long as I am able. I made a great mistake in not getting married, as I had some of the best chances. I have been quite successful financially, and have enough to keep me if I need it. I will see you when I come to Albany. Thirty years gone since I graduated. How time flies. No, time does not go, it stays

and we go. I have no fault to find during all that time. I have scarcely been sick, and followed my profession, only losing three or four months' time, when I took a post-graduate course at the New York Post-Graduate School, in 1905. I am very healthy at the present time. After graduating I stayed in the Swinburne Dispensary until May, 1884. Then I located at Gansevoort, and stayed a short time there, when I went to Glens Falls, with Dr. G. W. Little, remaining there three years, when I went to Luzerne, Warren County, where I stayed eighteen years. Then I removed to Fort Edward, where I am at the present time, which is now the beginning of my tenth year in this place. One of the greatest mistakes of my life was that I did not get married, and now in my old age, I am alone. There are too many doctors at the present time.

W. C. KELLOGG writes: In compliance with your request for a few words from me, regarding my life since leaving our Alma Mater thirty years ago, will say that it has been one of success, every aspiration has been realized. For a number of years my professional work was of a general character. Later I took up medical and surgical gynecology as a specialty. I have accumulated much of this world's goods, and trust that my life in the future will continue as it has in the past. Am sorry that I will be unable to attend the class reunion this year. However, my thoughts will be with you.

JAMES W. KING writes: I expect to be with you at class dinner in May next.

W. B. MELICK writes: Your various letters have been received, but through neglect have not been answered as courtesy demanded. I intended answering your recent letter, but have been ill in bed for nearly three weeks, and during the entire winter have been almost unable to use a pen owing to a severe attack of neuritis. So much for excuses.

Regarding myself can only say that life with me has been on the principle of the survival of the fittest. I am still pegging away at the same stand I started with twenty-nine years ago, and from all appearances judge life's journey will be finished here. The fact that I have withstood the criticism of twenty-nine years, will tell you that I have managed to make a go of my profession, and that although a country physician, need never expect to be a Rockefeller. Yet I am, or have been, fairly successful. I would like to be with you at our thirtieth reunion, but am afraid it will be impossible. Remember me to all the members of your class, and with my best wishes to all, believe me, I remain.

WALTER F. ROBINSON, address unknown.

LUMAN B. RULISON is still located in Watervliet, where he has been in general practice for the past twenty-seven years. His work has been very pleasant and profitable. He hopes to meet all the boys on Alumni day.



PATRICK E. STAFFORD regrets that he has not something worth while to say to the Class Historian of '84. His career has been an uneventful one, having been handicapped the greater part of his life with a chronic intestinal disorder, that has been very debilitating, in consequence of which he was often unavailable, when most in demand, which, of course, did not make for any great success, yet he was very successful under the circumstances. He made a good living and had a good home for himself and wife all these years. He was an Albanian until 1884, when he moved to Saugerties, N. Y., where he practiced twenty-four years. He removed to New York in 1908, where he has been practicing since. He married Elizabeth E. Deevey of Albany, N. Y., nine years prior to his graduation. He would very much like to meet the class, but at present cannot see his way clear to do so.

MICHAEL D. STEVENSON is still located at the same old stand, as when last heard of, and doing a general practice. He has nothing new to report.

GEORGE E. SWIFT writes that there is not much to add to the previous decade. A busy doctor and perfectly well so far as lack of symptoms denotes. It is his intention to be present at the reunion.

BELA J. WARD commenced practice in Troy, N. Y., after he left College. He retired from active practice a few years ago.

M. A. WHEELER expects to be present at the Alumni meeting and banquet May 26th. He hopes to meet a goodly number of the Class of '84 at that time. Nothing startling has happened to him since graduation. He settled on the east side of Troy, N. Y., in March, 1884. He has practiced satisfactorily for sixteen years. Was physician and surgeon to Rensselaer County Hospital and has been President of the Rensselaer County Medical Society. Married in 1888. Has six children, four boys and two girls. His oldest son graduated at the A. M. C. in 1912, and has had three years' hospital experience. One daughter is a nurse and the others are attending school, except two, who think they have finished. He says he is simply a general practitioner who has always had plenty to do though the compensation has often been small compared to the work. He has enjoyed good health, and has the best of wives and a happy home. What more could one ask? He belongs to the Masonic Fraternity up to and including the Shrine. He is also an Elk and a member of lesser fraternities.

E. P. WRIGHT writes: "I have been intending to meet with you, but Mrs. Wright's illness compels me to cancel the trip. I would enjoy very much meeting with the Class of '84, and look into their thoughtful faces, and learn of each one's success. I have given up practice for some time, limiting my work to surgery until 1909, at which time I was called by my people to represent them in Washington, D. C. This post

I held until 1912. Since my return I have not resumed my profession, but am devoting my whole time to my Ranch interests. At my time of life I find it more congenial to castrate horses, bulls and boars to removing the testicles of man, and the spaying of sows to the removal of the ovaries of women. Perhaps one cause for this preference is the fact that mortality is not so burdensome to the surgeon."

ROBERT BABCOCK spent eighteen months in the Albany Hospital after graduation. January 1st, '86, he settled in Holyoke, Mass., practicing there six months, when he moved to Albany, where he is at the present time. He married February 18, 1886.

JOSEPH D. CRAIG is still practicing his profession in Albany with the customary success. He is a member of several societies, political, fraternal, and medical. He is professor of Anatomy in the College, one of the visiting physicians to the Albany Hospital, and certain other Albany institutions. Until a few months ago he was the Health Officer of Albany, a position he held for the past fourteen years. He resigned this office to take the position of Registrar of the College. Being a very modest man the doctor withholds from publication various College degrees, honorary, etc.

J. A. RICH is located at Greenwich, N. Y., where he is doing a good general practice.

ROBERT A. WALKER is located at Buffalo, N. Y.

W. A. E. CUMMINGS, Ticonderoga, N. Y., writes: "As you know, I graduated with the grand old Class of 1884, without enough honor to make myself conspicuous, but with a very warm spot in my heart for every one of the crowd. I had become interested in the manufacture of vehicles before taking my degree, and within the week following my graduation I left for the wild and woolly West on a business trip thinking to find a good location and settle down to the steady, virtuous life accepted as the lot of every practicing physician. This much for my good intention; now for the sad facts as to a wasted life; through all the long years since 1884 I have ever had in mind that good location in which I was to settle, and during that time I have wandered to and fro over the face of this continent, from the troublous clime of Mexico to peaceful Canada, selling vehicles, collecting bad debts, waiting for trains, inquiring of the patient conductor as to when we would arrive, and watching to see that no one passed off any bad money on me. One year ago last January, on the evening of the first day, I came to myself and I said I will arise and go to my family and say to them, I will quit the road and the famine that it entails, and will, if necessary, be as one of the hired servants if I may be permitted to end my days peacefully at home with you and enjoy before I am called hence a little plain

home cooking such as you and mother used to make. With this thought in mind I severed a connection of some twenty odd years' standing that had been as pleasant an association as any man ever had in a business way, to take up the General Insurance Line at my home town at Ticonderoga. With this work I have been pleasantly engaged since, and find that it presents some very interesting problems for diagnosis regarding physical condition and moral hazard in the risks offered to my office. I married, June 27, 1888, Miss Mida A. Smith of Ticonderoga, and we have one daughter, Miss Hannah Francis Cummings, who has arrived at the interesting age of twelve years and is in the Ticonderoga High School, from which seat of learning she brings us each day enough fresh information to keep us in sight of the ideals for which we strove when at her age. As a reformed medical man I feel that I ought to be thankful that when I wake in the silent watches of the night I am not kept long awake wondering as to whether we removed all the sponges before closing up the abdomen, whether the lady who has the drug habit has it as the result of my exhibiting the remedy too long, or whether the old lady who went out suddenly really died naturally or as the result of my interference. Hope to be with you boys at the meeting of the class."

JOHN V. HENNESSY, Albany, N. Y., writes: "After graduation I was appointed to the House Staff of St. Peter's Hospital, and during the next twenty-five years served in various capacities as a member of the Attending Staff, the greater part of the time as Surgeon (about eighteen years). For about eight years I was Adjunct Professor of *Materia Medica* in the Albany Medical College; was Physician to St. Vincent's Male Orphan Asylum for twelve years. I have filled a number of minor public positions, municipal and national, and for the greater part of the thirty years that have passed since we started out together, I have been in very active general practice."

CLINTON G. HICKEY, Denver, Colo., writes: "Immediately after graduation I began practice in the little village of Gaylordsville, Litchfield County, Conn., where I remained three and one-half years. Within my first year of practice I married, and here in Gaylordsville our first two girls were born. In the fall of 1887 I removed to Burden, New York, to take the position of Physician and Surgeon for the Hudson River Iron & Ore Company, succeeding in this position Dr. M. M. Lown, my former preceptor and now an ex-President of our Alumni Association. Leaving Burden after four years' service I did post-graduate work for several months at the New York Polyclinic, returning at its close to my early home in St. Lawrence County, New York, where after an illness of thirty hours and six days respectively our two girls died from malignant scarlet fever. Shortly afterward we turned our faces toward Denver,

arriving here in the fall of 1891. Here I have continued in general practice with an increasing satisfaction in the profession which I have chosen, and an increasing appreciation of its opportunities for helpful service. I find time, as every man should, for the Medical Societies of our city, and am now a member of the following: American Medical Association; Colorado State Medical Society; Medical Society of the City and County of Denver; Denver Clinical and Pathological Society. I have done for some years some College work, having served for two years as Clinical Assistant in Medicine in the Medical Department of the University of Colorado, then for fourteen consecutive years as Clinical Assistant in Medicine, Lecturer on Medicine, and Associate Professor of Medicine respectively in the Denver and Denver and Gross Colleges of Medicine, the two latter standing in the relation of the Medical Department of the University of Denver. For the past two years I have done no college work, but now by virtue of my position of Attending Physician at the Hospital of the City and County of Denver my name stands in the list of Associate Physicians of the Medical Department of the University of Colorado, which school has absorbed the former Denver and Gross College of Medicine. Here in Denver were born my daughter, now nineteen years of age, and a sophomore at the University of Denver, and my son, now twenty-one, who took his degree from the University of Denver last year and is now completing his freshman year at the Northwestern University Medical School at Chicago. I would esteem it a great privilege to sit with the men of my class at the banquet this year, if it were possible, but as it is not I shall hope to do so at some future reunion. If at any time any of the members of the class of '84 should chance to pass through this 'Queen City of the Plains' it would give me great pleasure to have them look me up for the sake of the old days."

JAMES SELKIRK, Aurora, Ill., writes that it will be impossible for him to attend the reunion of the Class of '84.

C. F. TIMMERMAN, Amsterdam, N. Y., expects to attend the class reunion.

EDGAR ZEH took a six months' post-graduate course in New York City after his graduation at Albany in 1884. May 1, 1885, located at Waterford, N. Y., and has been in the grind ever since in the old town. He has been fairly successful in his work. Married in 1899. Has two girls, one ten and the other twelve years old. Has held two political offices, and was elected as one of the commissioners to rebuild their town hall, which was burned some months ago. Living a simple life and will try and meet some of the boys at the coming commencement.



The members of the Class of 1884 were:

- ROBERT BABCOCK, 102 Lancaster St., Albany, N. Y.  
FRED BLOSS, 22 Second St., Troy, N. Y.  
J. EDWIN BOWEN, Albany, N. Y., died March 6, 1885.  
EDMUND F. BRONK, 27 Division St., Amsterdam, N. Y.  
CHARLES M. COE, Oswego, N. Y., died March 7, 1897.  
CLINTON G. COOLEY, Montgomery, N. Y., died 1912.  
JOSEPH D. CRAIG, 12 Ten Broeck St., Albany, N. Y.  
WILLIAM A. E. CUMMINGS, Ticonderoga, N. Y.  
PIERSON C. CURTIS, Round Lake, N. Y., died September 6, 1909.  
FRANKLIN M. DEVOL, Guilderland Centre, N. Y., died April 27, 1891.  
JACOB M. FALK, died November 24, 1893.  
DAVID J. FITZGERALD, Glens Falls, N. Y., died July 17, 1904.  
JOSEPH A. FLYNN, Pittsfield, Mass., died November 24, 1892.  
FRED R. GREENE, 566 Central Ave., Albany, N. Y.  
LOUIS A. HARRIS, 482½ Broadway, Newburgh, N. Y., died Aug. 18, 1937.  
JOHN V. HENNESSY, 35 Clinton Ave., Albany, N. Y.  
CLINTON G. HICKEY, 1427 Stout St., Denver, Colo.  
GEORGE W. HOLDING, Watervliet, N. Y.  
HAMILTON HOLLIDAY, Fort Edward, N. Y.  
WINFIELD G. HUBBARD, Oakland, Me., died.  
HIRAM L. IVES, Lansingburgh, N. Y., died December 17, 1901.  
ARTHUR A. JONES, Gloversville, N. Y., died June 1, 1886.  
WILLIAM C. KELLOGG, 203 Seymour St., Syracuse, N. Y.  
JAMES W. KING, Stottville, N. Y.  
ELMER E. LANSING, Asseout, Egypt, died June 2, 1893.  
WILLARD C. MARSELIUS, Albany, N. Y., died December 24, 1893.  
JAMES A. McCAUGHIN, Albany, N. Y., died February 12, 1896.  
GEORGE H. McTAMMANY, Asheville, N. C., died April 12, 1891.  
WILLIAM B. MELICK, 2d, Fort Edward, N. Y.  
EDGAR W. MOREHOUSE, Peru, N. Y., died May 13, 1902.  
JACOB A. RICH, Greenwich, N. Y.  
WALTER F. ROBINSON, New York City.  
LUMAN B. RULISON, Watervliet, N. Y.  
JAMES SELKIRK, Aurora, Ill.  
PATRICK E. STAFFORD, 1649 Amsterdam Ave., New York City.  
MICHAEL D. STEVENSON, 63 S. Ferry St., Albany, N. Y.  
GEORGE E. SWIFT, 314 Warren St., Hudson, N. Y.  
CHARLES F. TIMMERMAN, 23 Division St., Amsterdam, N. Y.  
ROBERT A. WALKER, 79 Niagara St., Buffalo, N. Y.  
BELA J. WARD, Watervliet, N. Y.  
M. ARTHUR WHEELER, Pawling Ave. and Monroe St., Troy, N. Y.  
ELIPHALET N. WRIGHT, Olney, Okla.  
EDGAR ZEH, Waterford, N. Y.

Dr. Otis H. Deck reported for the

CLASS OF 1894.

*Mr. President and Gentlemen:* In gathering the following facts for this our twentieth anniversary, I wrote to each member at his last known address. Two letters only were returned by the postmasters marked unknown or left here years ago. Some were slow in replying. To those I sent a second letter, and from many received no reply. Thanking all for their help in compiling this history I present to you this, my second decennial report.

CHAS. F. ARCHAMBAULT. No reply. Last known address, Troy, N. Y.

GEORGE BEEBE, Pittsfield, Mass.

CHARLES BERNSTEIN, State Custodial Asylum, Rome, N. Y. Graduated A.M.C. 1894; served in Albany Homeopathic Hospital, June, 1893, to December, 1894; appointed medical interne, Rome State Custodial Asylum, December, 1894; promoted to assistant physician, Rome State Custodial Asylum, January, 1896; appointed superintendent, Rome State Custodial Asylum, August, 1904; elected lecturer on Eugenics and Mental Defectives at Syracuse Medical College, June, 1913.

JOSEPH B. BETTS, Buffalo State Hospital, writes: "I have little in the way of a historical sketch to offer. Shortly after graduation I spent a year on the resident staff of the Albany Hospital. In December, 1895, I received my appointment on the staff of the Buffalo State Hospital, where I am still located and for several years have done the pathological and sociological work for the institution. I am apparently permanently single and feel as young as I did twenty years ago, but there are a few silver threads amongst the gold."

HENRY W. BRIGGS, Wilmington, Del., writes: "I came to Wilmington in the late autumn of 1894 and located for the practice of my profession. During the first two years I changed my location several times, chiefly with a view of reducing my expenses, which up till this time were very much in excess of my income. At the end of my second year I became self-supporting and have been so ever since.

"In 1900 I purchased and was married in my present home and have lived here continuously since that time, with, I should say, the success of the average practitioner, having lived pretty well and accumulated some.

"For the past ten years I have been a member of the State Board of Medical Examiners and its president for the past six years.

"Also secretary and treasurer of the Medical Council of Delaware for the past six years. I have been county physician since 1902, and am at present coroner's physician and a member of the City Board of Health.

"I have two children, a daughter, twelve years old, and a son four years of age.

"I trust nothing will prevent my being at our twentieth reunion and meeting all of the '94 boys."

GEORGE BROOKINS. No reply.

JAMES BURTON, Cooperstown, N. Y., writes: "Pardon me for being careless about answering yours, but I've been very busy and had so much on my mind I simply forgot. You see I've sold my house and practice and am making a long jump. We are going to Pasadena, Cal., to live about July 1st, so there is much to be done and thought of. As to my history, I've this to say. After graduation went to St. Lawrence State Hospital as interne with Tom Sawyer. Left there in December and started practice in Gilbertville, Mass. Was married in April, 1895. Moved to Cooperstown July, 1896, and have been here ever since. Have one daughter who graduates this year at the Albany Academy for Girls. My special line has been obstetrics and children, and I can truly say the twenty years have been very good to me. Hoping I can be with you at the reunion."

A. J. CAPRON, Owego, N. Y., writes: "I left Albany in 1894 and went to Rochester and obtained a hospital experience. I then entered the State Hospital service in New York State and took up the special work of nervous and mental diseases. I entered the service in the Manhattan State Hospital on Ward's Island. From there I went to the Long Island State Hospital in Brooklyn. From there to the King's Park State Hospital at King's Park, Long Island. Back to Brooklyn, then back to King's Park. Was fortunate in advancing from time to time to a better position, and this caused my movements from place to place. Finally left the service after qualifying for Assistant Superintendent, and went to New York City and took charge of the Towns Hospital for the special treatment of alcoholic and drug addictions. Resigned there and came to Owego, Tioga County, and took charge of Glenmary Sanitarium for a time, then took over the institution myself and am now the proprietor of it. I care for cases of my particular specialty, nervous and mental diseases. Am licensed to treat and care for the committed insane. Also take cases of nervous break-downs, neurasthenics and those that require building up. Also treat drug and alcoholic addictions with a modified treatment somewhat like that I used in New York City. Am married, and we are in good health and glad to be alive. Twenty years is a long time and I can hardly realize that it is that long ago since we were all in Albany together."

WILLIAM W. CLARK, Maine, N. Y., died July 12, 1907. Drowned attempting to rescue another.

ROBERT N. CLEMONS. No reply.

CHARLES H. COLE. No reply; letter returned.

JOHN H. COTTER, 2D, 252 Havemeyer St., Brooklyn, N. Y., writes: "I haven't much to say about myself during these past twenty years except that I have been very busy all the time in the general practice of medicine. I have never gone into any of the specialties, as my time has been taken up with the general practice and minor surgery. After graduating in 1894, I started practice in Pine Plains, Dutchess County, N. Y. Was there eleven years until 1905, and after building a good business sold out to a New York physician and came to Brooklyn, where I have been nine years. I have succeeded very well here and have a very busy practice.

"In 1896 I married Miss Elizabeth C. Lasher of Pine Plains, N. Y. We have been blessed with two children, a boy fifteen and a girl eight years old. While I can't say that I have become a millionaire in the practice of medicine, I have always succeeded in making a very good living and am able to have and enjoy most of the good things in life. I feel that my success in the practice of medicine has been largely due to the good and faithful faculty and their sound principles of teaching and preparation they gave us for the battle of life. I have seen very few men in this great city who are graduates of the old A. M. C. (and there are a great many) who have not succeeded in the practice of medicine, which is a great compliment to our Alma Mater, when you consider the number of men who are doing practically nothing or earning their living in other lines of business. We have 1,700 physicians here in Brooklyn and 700 are not following their profession. Hope you will be able to round up all the old boys of '94 and get them together for one day and a night and sincerely hope that nothing will prevent my being one of the number."

E. J. CUSACK, Fulton, N. Y., writes: "After graduation I started in practice at Palermo, N. Y., my native town. I remained there for five years. I then came to Fulton, where I have practiced ever since. I am now serving my fourth term as one of the coroners of Oswego County. I have served as health officer of Fulton two terms. Am married and have three children, a girl and two boys. I must apologize to you for not replying to your letter sooner. I put your letter away, thinking there was plenty of time to reply, and you know how time goes especially when you are busy all the time. I hope there will be a good representation of the Class of '94 at Commencement."

O. H. DECK, Herkimer, N. Y., writes: "Immediately after graduating I entered the Albany Hospital as interne. After six months' service resigned to take up private practice in Herkimer, N. Y., where I still remain, with a wife and three children. Am a member of State and County Societies, examiner for several insurance companies, on the staff of local hospital. Still steadily in the harness trying to educate my two daughters and one son and acquire enough money to keep us from want in our declining years. With the hope that the next twenty years may see us all still active and able to enjoy the fruit of our past labors."



W. H. GEORGE, 304 Central Ave., Albany, N. Y., writes: "There is not very much for me to write concerning my career since graduation except to say that I have been blessed with very good health and have had a practice that gave me a comfortable living. Am happily married but have no babies. Trust to meet all the living graduates of my class at the Alumni meeting. With kindest regards."

WALTER C. GILDAY, New York City, died May 31, 1913.

WALTER WESLEY GODDARD, Schenectady, N. Y., writes: "After graduation I served one year as interne in Ellis Hospital, Schenectady, and have been engaged in active practice in this city since. Have been associated on the Medical Board of Ellis Hospital as attending physician since 1897 and served as secretary of Board of U. S. Examining Surgeons during past seventeen years. Am married and have one son ten years of age. I certainly expect to attend the reunion of our class in May."

GEORGE W. E. GOODELL, Wayland, N. Y., writes: "Upon being graduated I settled at Green Island, where I remained until the following spring when I went to Brainard, N. Y., staying there three years. Then, to be nearer the greater portion of my work, I went to East Chatham, N. Y., staying there four years, then going to Bridgeport, N. Y., where I remained nine years. While here I married Miss Florence E. Cady of East Chatham, N. Y., who died one year later. Three years ago I left Bridgeport and come here. I have a good practice but am not contented. Probably never will be. Have not remarried. I wish I could see all the boys at the class reunion."

EUGENE H. GOODFELLOW, 5708 14th Ave., Brooklyn, N. Y., writes: "After graduation I entered the Albany Hospital as an interne and after serving for about one year I resigned to enter the Buffalo State Hospital as an interne, which position I held for six months, when I resigned to accept a position as assistant physician on the staff of the Eastern Michigan Asylum, which position I held for one and a half years, resigning to enter private practice in Gloversville, N. Y., where I practiced for ten years. Then located in Schenectady, N. Y., and six years ago located in Brooklyn, where I still reside. I am a member of the Medical Association of the greater City of New York and the Association of Long Island Physicians. Have always enjoyed a good practice and am grateful to my Alma Mater for the training I received."

WILFRED S. HALE. No reply.

O. E. JONES, 267 University Ave., Rochester, N. Y., writes: "I can scarcely realize that twenty years has elapsed since we received our degree in medicine and left the A. M. C. to enter upon our life's work. During this time I have been busily engaged in the practice of my profession, my work being largely limited to surgery."

CHAS. T. LA MOURE, Lakeville, Conn., writes: "After leaving college, I returned to my position with the Albany Day Line, remaining with them until the following September, when I received an appointment as medical interne at the State Hospital at Rochester, N. Y., and began my duties there October 1, 1894. I remained at the Rochester State Hospital for seventeen years and was promoted from time to time and was senior assistant physician for five years before leaving there. In 1909, I began a special study of a type of the insane and worked out a system of treatment which came to the attention of the authorities in Massachusetts, and they offered me the position of Superintendent of the Gardner State Colony at Gardner, Mass. I assumed my duties there in September, 1911, and remained there until February 1, 1914. Then I accepted the superintendency of the Connecticut School for Imbeciles, which was formerly run by Dr. Knight as a private institution and at his death was purchased by the State August 1, 1913. Here I have an opportunity to work out some of my ideas with the feeble-minded. Was married to Miss Lowrey of Rochester in 1902, and, I am sorry to say, we have no children, and it looks as if the La Moure name would become extinct. I have had a very happy, uneventful life so far and hope the next twenty years will be as pleasant. I might add that financially I suppose I am a failure, but I have always had all I needed and more at times. Have not grown any in stature and very little in weight, and if it were not for the hair on my upper lip and the absence of hair on top of my head I would pass for the "C. Small" of twenty years ago. Do not feel a bit older than I did when I was in college, but might add that soon after graduating I overcame my aversion to tobacco and tobacco is my constant companion and has done much to alleviate the troubles of this life. As I am due to attend a meeting in Baltimore the same day that you meet, I have not quite figured out how I can be in the two places, but if I can possibly arrange it, I will be with you. However, if I cannot make it, give my best regards to the boys and tell them I will always welcome them here in Lakeville at any time. I will endeavor to be with you, as I always thought that when I grew up and returned to college twenty years later I would be able to repay Henry Ward Briggs for the many 'muggings' he used to give Joey Betts and C. Small."

S. M. LONG, Fresno, Cal., writes: "I was with the army from 1904 to June, 1907. Practiced in Berkeley, Cal., up to March, 1908. Since then I have been in Fresno. I keep myself as well informed as possible, and am a member of the County, State and the American Medical Association. I haven't had any serious illness; feel healthy and strong. Wishing you the same."

HARRY W. LUCHSINGER, Housatonic, Mass., writes: "Have practiced general medicine in my present location for nearly twenty years. Have had average success both professionally and financially. Have been obliged to slow up some in the last few years owing to injuries sustained in an automobile accident, the most severe injury being a fractured pelvis.

Have been married for the past seventeen years and, as Ward said ten years ago, 'I still live with my wife.' We have two daughters. Shall expect to meet all the boys on May 26."

JOHN R. MAHAN. No reply; letter returned.

J. R. MAC ELROY, Jonesville, N. Y., writes: "My life history since graduation can be briefly told. I settled in the hamlet of Jonesville, Saratoga County, on May 1, 1894, and have remained here ever since. My practice is essentially a country practice, embracing a territory radiating from four to eight miles in all directions. The work is hard, but the open air and the fields and woods still have their charm for me. I have built up a large and busy practice, but my expenses are many. I have lived as I went along, and I must need hustle for some years to come before there will be hopes of a retirement.

"Fracture and dislocations have been about my limit along surgical lines. My greatest liking has been for the diseases of children, and I have been particularly successful, I am told, in pneumonia and typhoid. If this be so, I believe I can attribute most of it to the teachings of the lamented John M. Bigelow, chief among which was his oft-repeated admonition, "and trust to the wonderful resources of nature." Peace be to his ashes.

"I married, in March, 1905, Clare Tanner, a graduate of the Albany Hospital Training School. We have had three children, all boys. The oldest, Willis A., left us just before reaching his second year, having had four attacks of pneumonia. Donald came in February, 1910, and Douglas in July, 1913. My home life leaves nothing to be desired; who could ask for more?

"In politics I have always been a Republican, although I was a strong supporter of Roosevelt in 1912; have represented my town in the Board of Supervisors for five years, and am a member of the County Committee at present.

"Have been an ardent automobilist for seven years, although I am compelled to keep four horses through the winter months.

"My chief recreation is hunting and the breeding of beagles. The collection of deer heads in my home is one any man can be proud of. My beagles have won on the bench, and their winnings at the Field Trials have made them famous from Maine to California. To the busy man whose time and mind are filled with the aches and pains of his patients there can be no more healthful relaxation than a half day afield with a pack of beagles.

"I am a charter member of the Saratoga County Medical Society, the State Society and the A. M. A. Am a member of Franklin Lodge, F. & A. M., Warren Chapter of Ballston Spa, Washington Commandery of Knights Templar of Saratoga Springs, and Oriental Temple of Troy, the Masonic Club of Round Lake, and the Social and Athletic Club of Burnt Hills.

"Aside from several severe attacks of renal calculi, I have enjoyed good health, and if I don't have another visitation, hope to be able to greet you all at the class reunion."

J. F. MCGARRAHAN, 63 Garner St., Cohoes, N. Y., writes: "Am located at Cohoes, N. Y., where I have been since graduation. Have a good general practice, much of which is surgical, and with a larger field would limit to surgery. My family consists of my wife, two sons, aged seventeen and ten years respectively, and one daughter fourteen years of age."

GEORGE B. MCGRAW. No reply.

WM. J. MCKOWN. No reply.

JAMES M. MOORE. No reply.

BERNARD E. MULLIGAN. No reply.

ELWOOD OLIVER, Ancram, N. Y., writes: "I was born in 1870 in the town of New Scotland, Albany County, of farmer parentage. Educated at the public and High Schools of Albany. After serving two years as clerk in a drug store, entered the A. M. C., from which I graduated in 1894. After one year's service in St. Peter's Hospital, Albany, I located at Ancram, Columbia County, where I have become a permanent fixture. Married in 1896 and two children have blessed that union, one a boy now 17 and now developing an education at the Albany High School, the other a girl of 12, who will be ready for academic work next fall. A comfortable home and good health are, up to the present time, the chief assets of myself and family."

GEORGE J. OTT no reply.

JAMES T. PARK writes: "After graduation and getting my State Board license I went to Sheffield, Mass., but January 1, 1895, came to Sandy Hill (now Hudson Falls), where I am now. I have been busy all of the time and reasonably successful. Have lost no member of my family since I saw you. Have a daughter who lives in New York and one son who is now a student in the A. M. C. Do a general practice with no pretense to a specialty. Am examiner for several life insurance companies. Have been President of our County Medical Society. Hope to see all of the old boys May 26th."

ANDREW J. ROGAN died August 9, 1901.

ARTHUR SAUTTER, no reply.



THOMAS C. SAWYER, Auburn, N. Y., writes: "I am still living in Auburn, 'The Loveliest Village,' and plugging away as usual. I am and have been for five years the city Health Officer, and of course am doing private practice too, that is, when anyone is foolish enough to send for me—there are some foolish ones. I have a daughter 16 years old, a boy (Tom) 14 years old, and a boy 13 years old, all in the High School. I occasionally see one of the old A. M. C. boys and talk over old times. I was in Albany two weeks ago and went over to the old College and everything looked just about the same as 23 years ago, when we went there. Same old stink, too."

RALPH SHELDON, Albany, N. Y., writes: "Twenty years! A long time to look forward to, but how short as we look back to the day we received the much coveted diploma. Nothing of a startling nature has taken place in my life during that time. Settling in Albany a year after graduation, have done my share of work. Have not accomplished all that I set out to do, nor am I satisfied. I suppose none of us ever reaches that state of mind. At the present time I am examiner for several insurance companies, Lecturer on Materia Medica to the Nurses of the Eastern New York Training School, and Past Commander-in-Chief, Sons of Veterans. Also member of many fraternal organizations.

Will be exceedingly pleased to meet the old classmates of twenty years ago at our annual meeting May 26th. Wife died May 25, 1914."

FRED B. STELLWAGEN, Weehawken, N. J., writes that he will try and be in Albany May 26.

JOSEPH B. SWETT died August 3, 1897.

CHARLES TRAVELL, no reply.

Mrs. M. F. WARD, Toulon, Ill., writes concerning her husband: "Dr. Ward, I am very sure, did not send a reply to your letter of February, as he has been very ill, and in the hospital since February 20, and will be there for some time yet. He is somewhat improved although not able to sit up any. His physician tells him that he will have to rest for six months at least. I write you this as he will not be able to attend to any correspondence."

EARL W. WILCOX, Norwich, N. Y., no reply.

WILLIAM J. WOODRUFF died July 29, 1900.

The members of the Class of 1894 were:

CHARLES F. ARCHAMBAULT, 68 Second St., Troy, N. Y.

GEORGE H. BEEBE, Pittsfield, Mass.

CHARLES BERNSTEIN, Rome, N. Y.

JOSEPH B. BETTS, Buffalo State Hospital, Buffalo, N. Y.

HENRY W. BRIGGS, 1026 Jackson St., Wilmington, Delaware.

GEORGE BROOKINS, Rockwood, N. Y.  
JAMES BURTON, Cooperstown, N. Y.  
ARTHUR J. CAPRON, Owego, N. Y.  
WILLIAM W. CLARK, Maine, N. Y., died July 12, 1907.  
ROBERT N. CLEMONS, Dresden Station, Yates County, N. Y.  
CHARLES H. COLE, 177 Main St., Milford, Mass.  
JOHN H. COTTER, 2d, 252 Havemeyer St., Brooklyn, N. Y.  
ERWIN J. CUSACK, Fulton, N. Y.  
OTIS H. DECK, 227 N. Washington St., Herkimer, N. Y.  
WILLIAM H. GEORGE, 304 Central Ave., Albany, N. Y.  
WALTER C. GILDAY, New York City, died May 31, 1913.  
WALTER W. GODDARD, 225 Nott Terrace, Schenectady, N. Y.  
GEORGE W. GOODELL, Wayland, N. Y.  
EUGENE H. GOODFELLOW, 5704 Fourteenth Ave., Brooklyn, N. Y.  
WILFRED S. HALE, 50 Clinton Ave., Albany, N. Y.  
OWEN E. JONES, 267 University Ave., Rochester, N. Y.  
CARLES T. E. LAMOURE, Lakeville, Conn.  
STEPHEN M. LONG, Fiske Building, Fresno, Cal.  
HARRY W. LUCHSINGER, Housatonic, Mass.  
JOHN R. MAHAN, 213 Woodward Ave., Detroit, Mich.  
JOHN R. McELROY, Jonesville, N. Y.  
JOHN F. MCGARRAHAN, Cohoes, N. Y.  
GEORGE B. MCGRAW, 33 N. Union St., Pawtucket, R. I.  
WILLIAM J. MCKOWN, 385 Hamilton St., Albany, N. Y.  
JAMES M. MOORE, 375 Madison Ave., Albany, N. Y.  
BERNARD E. MULLIGAN, 176 Palliside Ave., Yonkers, N. Y.  
ELLWOOD OLIVER, Ancram, N. Y.  
GEORGE J. OTT, Clinton, Mass.  
JAMES T. PARK, Hudson Falls, N. Y.  
ANDREW J. ROGAN, South Shaftsbury, Vt., died August 9, 1901.  
ARTHUR SAUTTER, 220 State St., Albany, N. Y.  
THOMAS C. SAWYER, Auburn, N. Y.  
RALPH SHELDON, 291 State St., Albany, N. Y.  
FRED B. STELLWAGEN, 103 Bergenline Ave., Union Hill, N. J.  
J. B. SWETT, died August 3, 1897.  
CHARLES TRAVELL, 27 East Eleventh St., New York City.  
FRED P. VANDENBERGH, Watervliet, N. Y.  
MILAN T. WARD, Toulon, Ill.  
EARL W. WILCOX, Norwich, N. Y.  
WILLIAM J. WOODRUFF, Providence, R. I., died July 29, 1900.

Dr. B. J. Singleton reported for the

#### CLASS OF 1904.

*Mr. President and Members of the Alumni:* There were forty-one members in the Class of 1904. All are still living, and judging from the histories obtained, are well and prosperous. Twenty-five members of the class were present at our reunion.

Dr. GEORGE L. BRANCH, Catskill, N. Y., writes: "I was born August 27, 1875, in East Springfield, Otsego County, N. Y., to Mr. and Mrs. Charles N. Branch, being the second of nine children. Received my preliminary education at East Springfield Academy, Oneonta Normal and Corinth High Schools, graduating from the latter. Entered Albany Medical College in year 1900, and graduated in 1904. Was in St. Peter's Hospital, Albany, from October, 1902, to May, 1904, and located in Catskill, N. Y., in October, 1904, where I have since remained. Was valedictorian of my class and a member of the Omega Upsilon Phi Fraternity. Am at present Vice-President of the County Society. Believe the above is about all I care to say about myself, as one would be unwise to incriminate himself in any way."

Dr. C. W. CHAPIN writes: "I was born at Unadilla, and graduated from the Unadilla High School and Academy in 1897. I taught school until entering Medical College in 1900. After graduating in 1904 I located at Smithville Flats, where I practiced for nearly two years, when I removed to Greene, where I have since been located. Have taken post-graduate work at New York Polyclinic and Post-Graduate Hospitals and am doing a busy general practice. So far as my success in combating disease is concerned would say that there is only one cemetery within three miles of the village and one of the two undertakers went out of business last year."

Dr. CHESTER T. COBB, Northampton, Mass., writes: "After graduating from Albany, I went immediately to the Hartford Hospital, Hartford, Conn., completing my service there in 1906. Took some special courses in Boston and began practicing in Easthampton, Mass., in 1907. Married in 1908. Appointed as assistant surgeon to the Dickinson Hospital in Northampton, Mass., in 1908. Appointed as surgeon in 1912, and moved to Northampton."

Dr. T. F. COLE, Romulus, N. Y., writes: "After graduation and State Board Examinations I returned to my home and have done a general medical and surgical practice. My work has been very successful. I hold the following positions: Physician to the poor in the towns of Romulus and Varick, coroner of Seneca County, examiner for a number of life insurance companies and am a fire director of the town. I am a member of the Patrons of Husbandry, Maccabees, and Masons. For two terms I held the office of Town Clerk of my town. My hospital work is done in Seneca Falls, Geneva and Ithaca. In 1906 I was married to Miss Maggie Belle Ellison of Glencoe, Ontario, Canada, and we have a fine home."

Dr. JOHN ISAAC COTTER, Campbell Hall, N. Y., writes: "I was born in Jackson Corners, N. Y., in 1881; moved to Poughkeepsie in 1894. Graduated from Poughkeepsie High School in 1900, and A. M. C. 1904.

President Class 1904, A. M. C. Appointed interne Albany Hospital, where I spent one year, commencing practice in Campbell Hall, N. Y., June, 1905. Married Miss Fannie Penoyer of Chester, N. Y., December, 1912. We are now living in a new house of our own in Maybrook, N. Y., two miles from Campbell Hall, in which latter place, however, I still maintain an office hour once a day. Received appointment Surgeon for C. N. E. Ry Co. at Maybrook in 1905, and increased amount of railroad yard work here is reason for the move from Campbell Hall. Elected President of Medical Society of County of Orange January, 1914."

Dr. MARCUS A. CURRY, Greystone Park, N. J., writes: "After graduation spent a year at the Albany Homeopathic Hospital and since then have devoted my time to the study of psychiatry; at present am Assistant Physician at the New Jersey State Hospital at Morris Plains, New Jersey. Am a member of the New York State Medical Society, New Jersey State Medical Society, Morristown Medical Club, and The American Medico-Psychological Association."

Dr. ARTHUR THOMAS DAVIS writes: "After graduation I served as interne at Faxton Hospital, Utica, and later as Resident Physician and Surgeon at the Utica General Hospital. In 1906 opened office and commenced practice in Utica, but was compelled in 1907 to remove to country by ill-health, following typhoid, of which I had severe attack in 1905. Removed to Clark Mills, remaining three years. Removed in 1910 to Pine Bush, where we have since remained. Have a very good general practice, specializing somewhat in nose and throat. In January, 1908, was married to Miss Mary Buckley of Utica and have one son aged four years."

Dr. T. J. DOWD, Ticonderoga, N. Y., writes: "After graduation entered the Troy Hospital in June and served as interne until July the following year. Began practice in Ticonderoga September of same year. On June 20, 1907, married Anna Frances Tulin at Jewett City, Conn. Have two children, both boys.

"As to whether I am a success or failure we will let the next ten years decide."

Dr. MALCOLM DOUGLAS, Albany, N. Y., writes: "After graduation I served two years as interne at the Albany Hospital and then started in the general practice of medicine in Albany. I am instructor in the Albany Medical College and Attending Physician, Tuberculosis Department at the Albany Hospital. Am a member of the County, State and A. M. A."

Dr. WILLIAM E. GARLICK, Wappingers Falls, N. Y., writes: "I entered the Albany Medical College in the fall of 1900. Young in appearance, hence the nickname "Foetus," which followed me through the four



years. After graduation I spent a happy, fruitful in-experience year at the Albany Hospital.

On June 1, 1905, I located in Wappingers Falls, where I have successfully practiced my profession since, taking everything that comes along in the general practice of medicine and surgery in a town of 3,500 people. I am married and have a fine daughter of two years."

Dr. SILAS L. FILKINS, New York City, writes: "After I graduated I started practice in Albany, where I stayed about two years, during which time I was Assistant Demonstrator and Prosector of Anatomy. Then I took a country practice for one year, after which I went to St. Mary's Hospital, Detroit, for a year's post-graduate, after which I located in New York City, where I have been since. Have been Assistant Attending Surgeon to Bellevue Clinic for two years. Am doing general medicine and major surgery, especially pelvic surgery. Belong to New York County, State and American Medical Associations, The Medical Association of the Greater City of New York, and the Clinical Congress of Surgeons. Am an Odd Fellow and a Mason. Married Miss Annie Dewar, head nurse of Pavilion F, and have a son and daughter."

Dr. EVEREL C. HAVILAND, Keene, N. H., writes: "After graduation I accepted an appointment as Second Assistant Physician at the Brattleboro Retreat, Brattleboro, Vt. Filled that position as best I could for three years, was then promoted to First Assistant Physician, which position I held for a little over three years. Having a great desire all this time for general practice, I resigned from the staff of the Retreat in 1910 and located in Keene, N. H., in September of that year. Am still located at Keene and doing a fair amount of business after a rather slow start. In 1909 I married Miss Ethel Randall of Brattleboro, Vt., and we are now the possessor of a bouncing boy born December 12, 1912."

Dr. HAROLD ELIPHALET HOYT, Noroton Heights, Conn., writes: "Born at Cambridge, New York, April 26, 1878, graduated from the High School at Cambridge in 1895. Attended Williams College one year and the University of Kansas the next three years, graduating in 1899. Went into the asphalt paving business and after one year decided to study medicine, entering Albany Medical College with the Class of 1904. After graduation served one year as Interne at Ellis Hospital, Schenectady, N. Y. After a brief service with Dr. Traver as surgical assistant went to Puerto Rico; left there within one year on account of ill-health and began practice in Waterbury, Conn. After two years came to Noroton Heights as Assistant Surgeon to the Soldiers' Home, and July, 1913, was promoted to the position of Surgeon."

Dr. W. G. KEENS, Albany, N. Y., writes: "I practiced general medicine three years; spent two years in Dr. Root's Clinics. I then took up special work at the Manhattan Eye, Ear, Nose and Throat Hospital;

also Dr. Coakley's Clinics at Bellevue and private hospitals. Upon return was made assistant to Dr. Root, Instructor Albany Medical College, diseases throat and nose; also attending specialist Albany Hospital Dispensary. Was recently elected Assistant Attending Laryngologist, Albany Hospital. Married graduate of Albany Hospital Training School for Nurses. Have one boy. 'Am also manager of a large teaming business. Fairly successful in practice. Am a member of the Masonic Fraternity and am at present enjoying good health. Hope to see you at our meeting, hope it will be a rattling good one."

Dr. GEORGE SPENCER LAPE, Binghamton, N. Y., writes: "Am still practicing medicine in Binghamton, N. Y. Locating here immediately after graduation. Served on medical staff of the Binghamton City Hospital for two years and later as consultant. Was jail physician for Broome County for five years. Have been connected with the Medical Department of the National Guard for six years as Surgeon to a local artillery, resigned with the commission of Captain. Am medical examiner for an old line insurance and several local fraternal orders. President of the Binghamton Academy of Medicine Society during 1912-1913. In 1906 married May Frances Marshman of Albany, N. Y. Have three children. Am member of County, State, and A. M. A. Expect to be at reunion, if possible."

Dr. HARRY LOVEJOY LOOP, Saratoga Springs, N. Y., writes: "For one year after graduation I served as House Physician at the Saratoga Hospital. I then entered general practice in Saratoga Springs, where I have practiced ever since. After another year I was appointed on the staff of the Saratoga Hospital and am now Attending Physician to that institution. I am town physician and medical inspector of public schools. I have managed to survive after all the ups and downs of starting practice, and through which Saratoga Springs has gone, losing its racing and its springs. Now both have returned and the future of Saratoga Springs is very bright as the greatest health resort in the world. The letter "M" has entered peculiarly into those things in which I am most interested. I am practicing general Medicine; I am an enthusiastic Mason; in the Militia I hold a commission as Captain in the Medical Corps of the National Guard; am going to marry the best girl in the world, whose name begins with 'M.'"

Dr. D. A. MURPHY, Gloversville, N. Y., writes: "I finished year of 1904 in Albany County Hospital; year 1905 in Albany Homeopathic; in 1906 was married and started practice in Gloversville, where I have been since. Member of Fulton County and Johnstown and Gloversville Medical Societies. Attending Surgeon to Gloversville Hospital."

Dr. R. J. O'BRIEN, Watervliet, N. Y., writes: "I am still holding down the same office chair, in the same office, which is across the street from

the house I was born in. I hung out a small German silver sign on the front of this building on Friday, October 13, 1905. Am now thinking of employing a secretary to keep track of the new laws passed by the New York State Legislature, and to see that I do not break them too badly. Hope to see you and all the rest of 1904 classmen at Albany on Tuesday the 26th."

Dr. J. D. OLIN, Watertown, N. Y., writes: "Born Glens Falls, N. Y., May 3, 1874, next to youngest of five children of the Rev. Russell A. Olin, S. T. D. (at that time rector of the Episcopal Church of Messiah) and Lucy Pond Gilbert Olin. My parents moved to Watertown, N. Y., in 1881, and I have resided there since. School preparation in Watertown private and public schools. Entered Hobart College 1892. Member of Sigma Phi Society. Graduated A. B., 1896. Elected to Phi Beta Kappa next year. Taught 1896-1898. Studied theology General Theological Seminary Episcopal, New York City, 1898-1900. After graduation from Albany Medical College spent one year as interne Albany Hospital and then assisted Dr. L. H. Neuman one year. Began practice in Watertown in fall of 1906 and have continued in general practice there since. Member A. M. A. and Medical Society County of Jefferson, Watertown City Medical Society. Attending Surgeon Watertown City Hospital, Attending Physician and Surgeon to Jefferson County Orphan Asylum. Chairman Watertown Tuberculosis Dispensary Medical Committee. January 1, 1912, married Margaret Floride North of Buffalo, daughter of Rev. Walter North, Rector St. Luke's Episcopal Church."

Dr. D. V. O'LEARY, JR., Albany, N. Y., writes: "After graduating ten years ago, I took up general practice with my father in Albany, and we are still together. I am Attending Physician to Francis Elliott Austin Maternity Hospital and Infants' Home, and also Attending Physician to the South End Dispensary. Clinical Assistant to the Albany Medical College. Member of the State and County Medical Societies and member of the Clinical Club of Albany. Not married yet. Trusting you are very well and hoping to see you in May."

Dr. BURT L. SHAW, Troy, N. Y., writes: "Early education at the Waterford High School; graduate of Albany College of Pharmacy, Class of 1895; married in June, 1894, at the age of 20 years. Proprietor of Pharmacy at 718 Second Avenue, Troy, in winter of 1897. Began study of medicine at Albany Medical College in 1900. Graduated in 1904. Began practice in Troy July 1, 1904, and have continued in general practice up to the present time. Elected to the staff of the Leonard Hospital June 1, 1909, and at present serve on the surgical side. Post-graduate work at the New York Post-Graduate Hospital and Medical School in the years 1907, 1911, 1912 and 1913, taking mostly surgical work. Member of the County and State Societies and A. M. A. Have

a son five years old. Still retain the drug store, which furnishes some amusement and possibly helps in keeping up the bank account."

Dr. J. H. REID, Troy, N. Y., writes: "Since graduation I spent one year as interne at Troy Hospital after which I entered the office of Dr. C. B. Herrick as his assistant, and spent two years working with him doing a general surgical practice; at this time I was appointed an Assistant Surgeon at Troy Hospital. Finally opened an office in Troy. Married and have a daughter nearly four years old. At present time I hold the following appointments: Surgeon Troy Hospital and House of Good Shepherd, Railroad Surgeon to the railroads entering Troy."

Dr. B. J. SINGLETON, Glens Falls, N. Y., writes: "After graduation I served one year on the House Staff of St. Peter's Hospital. Then located in Glens Falls. Engaged in general practice. Unmarried."

Dr. E. A. STAPLETON, Albany, N. Y., writes: "Was born in Hoosick Falls, N. Y., September, 1880. Graduated from the Hoosick Falls High School in 1897. Finished in the Albany School of Pharmacy in 1900. Then started in medicine. After Sophomore year in Medical College, was Pharmacist at the Manhattan State Hospital. Graduating in 1904, received an appointment at the Albany City Hospital and served one year as an interne. In 1906, took a post-graduate course at the New York Post-Graduate College. In 1907, spent part of summer doing autopsies and dissections at the New York Morgue, with Drs. O'Hanlon and McAllister. In 1909 did post-graduate work in the New York Ophthalmic and Aural Hospital; 1910-11 was also connected with the New York Ophthalmic and Aural Hospital, St. Bartholomew's and New York Eye and Ear Hospitals; 1912 spent in post-graduate study in Vienna, Berlin and London, most of my time being spent in Vienna. A little over a year ago, located in Albany, where I specialize on the eye, ear, nose, and throat."

Dr. CHESTER E. TRACY, Castleton, N. Y., writes that he expects to be present on May 26.

Dr. R. H. VAN DENBURG, Coxsackie, N. Y., writes: "After one year in St. Peter's Hospital entered into practice in the village of Coxsackie, N. Y., where I have a lucrative practice. Have filled positions of honor and trust and enjoy my profession."

Dr. FRANK B. WHEELER, Hudson, N. Y., writes: "Born in Brunswick, Rensselaer County, N. Y., January 8, 1881. Graduated from Troy Public Schools and Troy High School. Then took up medicine. After leaving College spent one year in Samaritan Hospital, Troy. Then went to North Creek and did general medicine for three and one-half years."



Spent one year in Philadelphia doing special work in eye, ear, nose and throat, and then located in Hudson four years ago. Am well pleased with location and work. Am married."

Dr. F. E. WHITE, Schenectady, N. Y., writes: "With high school credentials I entered the Medical College in 1900 and graduated in 1904. In July of that year I went to Ellis Hospital in Schenectady as interne and upon finishing my term there of one year I took a month's course at the Lying-In Hospital in New York, and since that time have been doing general practice in Schenectady. I was married in 1906, and have one child, a girl, six years of age."

Dr. TREVOR C. YATES, New York City, writes: "After graduation in May, 1904, from the Albany Medical College, I successfully passed the State Board Examination the following June. Receiving my license I located at Painted Post, Steuben County, New York, at which I nearly starved. After remaining there for several months, being in need of funds and experience, I obtained a position as physician and surgeon for the Chateaugay Ore and Iron Co. in the mining camp at Lyon Mountain, Clinton County, N. Y., where I received a stated salary and found plenty of work to do. I remained there two years. Then I went home to rest for a few months, and to entertain a severe attack of smallpox. About this time I became married, and have remained under the ties of bondage ever since. No children have come as yet. In 1907 I came to New York City and hung up my shingle the same week of the great financial panic. Since that time I am enjoying a nicely growing practice in general medicine. My medical fraternal relations are as follows: I am a member of the Omega Upsilon Phi Medical Fraternity of Albany, of the Harlem Medical Association, of the Bronx County and New York State Medical Society, and also hold the appointment as Clinical Assistant at the Harlem Hospital, New York. Other fraternal organizations: I am a member of Tienuderrah Lodge No. 605, F. and A. M., Hillington Chapter No. 224, R. A. M. Also a member of the United Ninth No. 147, K. of P., True Blue Council No. 25, D. of A. Bronx, Council No. 105, Junior Order United American Mechanics. This order has a military uniform rank of which I hold the rank as Major Surgeon, of the Second Regiment. I am a member of the Bronx Regular Republican Club, and also of the Junior Order Club."

The members of the Class of 1904 were:

PALMER R. BOWDISH, Cornwall, N. Y.

GEORGE L. BRANCH, Catskill, N. Y.

CHARLES W. CHAPIN, Greene, N. Y.

GUY F. CLEGHORN, Mineola, N. Y.

CHESTER T. COBB, Easthampton, Mass.

THOMAS F. COLE, Romulus, N. Y.

JOHN I. COTTER, Campbell Hall, N. Y.  
MARCUS A. CURRY, Voorheesville, N. Y.  
ARTHUR T. DAVIS, Pinebush, N. Y.  
WILLIAM S. DELAHOYDE, 382 Maron St., Brooklyn, N. Y.  
BRANSEN K. DEVOE, 211 Madison Ave., Albany, N. Y.  
MALCOLM DOUGLAS, 274 State St., Albany, N. Y.  
THOMAS J. DOWD, Ticonderoga, N. Y.  
SILAS L. FILKINS, 501 West 170th St., New York City.  
LELAND D. FOSBURY, Endicott, N. Y.  
JOSEPH N. B. GARLICK, 1001 State St., Schenectady, N. Y.  
WILLIAM E. GARLICK, Wappingers Falls, N. Y.  
EVERAL C. HAVILAND, Brattleboro, Vt.  
HAROLD E. HOYT, Noroton Heights, Conn.  
GEORGE J. JENNINGS, Matteawan, N. Y.  
WILLIAM J. KEENS, 85 West St., Albany, N. Y.  
ARTHUR C. KLINE, Port Leyden, N. Y.  
GEORGE LAPE, 802 Susquehanna St., Binghamton, N. Y.  
HARRY L. LOOP, Cohoes, N. Y.  
DENNIS A. MURPHY, Gloversville, N. Y.  
ROBERT J. O'BRIEN, Watervliet, N. Y.  
DANIEL V. O'LEARY, JR., 10 Ash Grove Place, Albany, N. Y.  
JOSEPH D. OLIN, Watertown, N. Y.  
JOHN H. REID, 105 Fourth Avenue, Troy, N. Y.  
BURT L. SHAW, 682 Second Ave., Troy, N. Y.  
BENJAMIN J. SINGLETON, Glens Falls, N. Y.  
EDWARD A. STAPLETON, 211 State St., Albany, N. Y.  
ARTHUR W. THOMAS, Jamaica, N. Y.  
CHESTER E. TRACY, Castleton, N. Y.  
RICHARD W. VAN DENBURG, Coxsackie, N. Y.  
FRANK B. WHEELER, Hudson, N. Y.  
FRANK E. WHITE, 7½ Westinghouse Place, Schenectady, N. Y.  
GEORGE D. WILDE, Fort Edward, N. Y.  
GUY V. WILSON, Johnstown, N. Y.  
MAURICE W. WOLFF, 205 West 136th St., New York City.  
TREVOR C. YATES, 291 E. 146th St., New York City.

On motion of Dr. Mosher the thanks of the Association were tendered the Historian and the Class Historians for the unusually accurate and complete reports.

The Nominating Committee submitted the following report by its Chairman, Dr. Cotter:

*For President*

Dr. HERMAN L. CHASE ('75), Palmyra, N. Y.

*For Vice-Presidents*

- Dr. CHARLES A. INGRAHAM ('78), Cambridge, N. Y.  
Dr. GEORGE W. HOLDING ('84), Breakabeen, N. Y.  
Dr. JAMES T. PARK ('94), Hudson Falls, N. Y.  
Dr. EVERAL C. HAVILAND ('04), Keene, N. H.  
Dr. EDWIN H. HUNTINGTON ('14), Schenectady, N. Y.

*For Recording Secretary*

- Dr. J. MONTGOMERY MOSHER ('89), Albany, N. Y.

*For Corresponding Secretary*

- Dr. JAMES N. VANDER VEER ('03), Albany, N. Y.

*For Treasurer*

- Dr. ROBERT BABCOCK ('84), Albany, N. Y.

*For Historian*

- Dr. ARTHUR J. BEDELL ('01), Albany, N. Y.

*For Members of the Executive Committee (term three years)*

- Dr. ERASTUS CORNING ('07), Albany, N. Y.  
Dr. OTIS H. DECK ('94), Herkimer, N. Y.  
Dr. THEODORE L. ST. JOHN ('78), Sand Lake, N. Y.  
Dr. LUMAN B. RULISON ('84), Watervliet, N. Y.

On motion of Dr. MacFarlane the report was accepted and the Recording Secretary was directed to cast one ballot for the names contained in the report. The Recording Secretary then read these names and President Janes declared the members named in the report duly elected officers of the Association for their respective terms.

Announcements of the program of the day, the commencement exercises and alumni dinner having been made, and no further business appearing, the Association adjourned.

## COMMENCEMENT EXERCISES.

The eighty-third commencement exercises of the Albany Medical College were held in the Auditorium of the New York State Education Building, on Tuesday afternoon, May 26, 1914, at three o'clock, in the presence of a large audience. Willis G. Tucker, M. D., Acting Dean of the College, presided, and upon the stage were seated the members of the Faculty, officers of the Alumni Association, and prominent citizens.

The following was the

## ORDER OF EXERCISES.

ACTING DEAN WILLIS G. TUCKER, M. D., PRESIDING.

*Music*—March, "Spirit of Independence".....*Holzmann*  
*Prayer* .....*REV. ROELIF H. BROOKS*  
*Music*—Melodies, "une peu d'Amour".....*Silesu*  
*Essay* .....*WILLIAM PATRICK HOWARD*  
*Music*—Air De Ballet, "The Butterflies Ball".....*Higgin*

PRESENTATION OF CANDIDATES FOR DEGREE BY ACTING DEAN TUCKER.

## CONFERRING DEGREES.

By CHARLES ALEXANDER RICHMOND, D. D., LL. D.,  
 Chancellor of the University.

*Music*—Valse, "Nights of Gladness".....*Aucliffe*

## ADDRESS TO THE GRADUATING CLASS

JOHN HUSTON FINLEY, M. A., LL. D.,  
 President University of the State of New York,  
 Commissioner of Education

*Music*—Song, "I'm On My Way to Mandalay".....*Fischer*  
*Valedictory* .....*GEORGE JACOB CULVER*

## REPORT ON PRIZES AND APPOINTMENTS

JOSEPH D. CRAIG, M. D., REGISTRAR.

*Music*—Finale, "My Hindo Man".....*Eugene*  
 (HOLDING'S ORCHESTRA.)

The Graduating Class was as follows:

John Deming Arnett.....Knowlesville, N. Y.  
 Abraham Ball .....Brooklyn, N. Y.  
 David Wiltsie Beard.....Cobleskill, N. Y.  
 \*Edward Joseph Buxbaum.....Brooklyn, N. Y.  
 John Peter Byrnes.....Pittsfield, Mass.

\*Not being of legal age, will receive his diploma on commencement day, 1915.



Edward James Callahan.....	Mechanicville, N. Y.
George Clay Carter.....	Albany, N. Y.
Edward Cochrane John Costelloe.....	Brooklyn, N. Y.
John Kenneth Crandall.....	Wappingers Falls, N. Y.
George Jacob Culver.....	Schenectady, N. Y.
Daniel Sylvester Cuning.....	Troy, N. Y.
Frank Edgerton Deeds.....	Schenectady, N. Y.
Nicholas Antonio Falvello, A. B.....	Brooklyn, N. Y.
Samuel Sanders Fiscoff.....	Brooklyn, N. Y.
*Albion James Fitzgerald.....	Albany, N. Y.
Frank Carmine Furlong.....	Highland, N. Y.
John Warren Gard.....	Auburn, N. Y.
Clarence Gardinier .....	Schenectady, N. Y.
Parker Arthur Groff.....	Rome, N. Y.
Robert Wilhelm Helm.....	Saratoga Springs, N. Y.
John Thomas Hopkins Hogan.....	Troy, N. Y.
William Patrick Howard.....	Albany, N. Y.
Edwin Horton Huntington.....	Hopewell Junction, N. Y.
Lawrence Jacobius .....	New York, N. Y.
George Rudolf Jordy.....	New York, N. Y.
Charles Aubrey Joy.....	Springwater, N. Y.
Harry Vincent Judge.....	Albany, N. Y.
Joseph Thomas Loughlin.....	Brooklyn, N. Y.
*Wilbur Foster MacDonald.....	Schenectady, N. Y.
John Stoddard McCormick, Ph.G.....	Albany, N. Y.
Thomas Hugh McGrail.....	Albany, N. Y.
Floyd Guy Nellis.....	Boonville, N. Y.
Wilber Sylvester Newell.....	Syracuse, N. Y.
William O'Connor, B. S.....	Albany, N. Y.
Harry Okun .....	New York, N. Y.
Julius Joseph Padula.....	Albany, N. Y.
Harry Day Parkhurst.....	West Winfield, N. Y.
Charles Adelbert Perry.....	Rome, N. Y.
Robert Reid, Jr.....	Schenectady, N. Y.
Charles Quevedo Rendell.....	Richmond Hill, N. Y.
Harry Stephen Reynolds, B. S.....	Schenectady, N. Y.
Edward Louis Robbins.....	Syracuse, N. Y.
James Israel Schoonmaker.....	West Coxsackie, N. Y.
Frank Arthur Searle.....	Southampton, Mass.
Lewis Jeriah Smith.....	Westfield, Mass.
Theron Smith .....	Newburgh, N. Y.
William Irving Walsh.....	Troy, N. Y.
John Waluk .....	Amsterdam, N. Y.
Willard Elmer Wheelock.....	Canajoharie, N. Y.
Cecil Charles Whittemore.....	Albany, N. Y.
Fred DeGrande Wilson.....	Downsville, N. Y.

\*Not being of legal age, will receive their diplomas on commencement day, 1915.

Leon Wolff .....	Brooklyn, N. Y.
Laurence Randolph Worrell.....	Albany, N. Y.
Harry Theodore Wygant.....	Watervliet, N. Y.
and	
†Darwin Alfred Bruce.....	Albany, N. Y.

Dr. Craig presented the prizes. He read a report on the Vander Poel Prize, endowed by Mrs. Gertrude W. Vander Poel, in memory of her husband, the late S. Oakley Vander Poel, for many years a professor in the College, stating that the prize, consisting of a clinical microscope and accessories, offered to the senior student passing the best bedside examination in general medicine, has been awarded to Dr. Harry Day Parkhurst, with honorable mention of Dr. Fred DeGrande Wilson and Dr. John Stoddard McCormick.

The prize offered by Drs. Vander Veer and Elting for the best report of the surgical clinics was awarded to Dr. Albion James Fitzgerald. For the second best report of these clinics, the prize offered by Drs. Morrow and Traver was awarded to Dr. John Stoddard McCormick.

The prize, consisting of an ophthalmoscope, offered by Dr. Merrill for the best final examination in ophthalmology, was awarded to Dr. George Jacob Culver.

The Townsend Physiology Prize, endowed by the late Professor Franklin Townsend, Jr., M. D., was awarded to Mr. Joseph Motler, for passing the best examination in physiology at the end of the first year of study. Honorable mention to Mr. Edward G. Sheehan.

Dr. Boyd's Prize to the student passing the best final examination in obstetrics was awarded to Dr. Thomas Hugh McGrail.

The prize, consisting of a case of surgical instruments, offered to the senior student passing the best final examination, by Dr. W. J. Nellis ('79), in memory of his brother, the late Dr. T. W. Nellis ('81), was awarded to Dr. William Patrick Howard. Honorable mention to Dr. George Jacob Culver and Dr. Harry Vincent Judge.

Dr. Lempe's Prize for the best report of the lectures on second

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† Passed in 1913, but was not of legal age, and receives his diploma at this time.

year Minor Surgery, was awarded to Mr. George M. Richard. Honorable mention to Mr. William J. Carroll.

The Daggett Prize, consisting of sixty dollars, for the best "anatomical specimens," was awarded to Mr. Archibald A. Walker, and the second Daggett Prize, amounting to thirty dollars, was awarded to Mr. Leon C. Cote.

The Daggett first prize for the best "deportment irrespective of scholarship," consisting of sixty dollars, was awarded to Dr. Edwin Horton Huntington, and the second prize, consisting of thirty dollars, was awarded to Dr. Lewis Jeriah Smith.

Appointed Essayist for 1915, Arthur M. Dickinson; Alternate, Lawrence J. Early.

The following hospital and laboratory appointments were announced:

*Albany Hospital:* William Patrick Howard, Harry Vincent Judge, Fred DeGrande Wilson, James Israel Schoonmaker, Frank Arthur Searle, Wilber Sylvester Newell, Edward James Callahan, David Wiltsie Beard.

*St. Peter's Hospital:* George Jacob Culver, Willard Elmer Wheelock, Edward Louis Robbins.

*Samaritan Hospital, Troy:* William Irving Walsh, Thomas Hugh McGrail.

*Troy Hospital:* John Thomas Hopkins Hogan, Daniel Sylvester Cunningham, Clarence Gardinier.

*Ellis Hospital, Schenectady:* Edwin Horton Huntington, Lewis Jeriah Smith, Wilbur Foster MacDonald.

*Homeopathic Hospital:* Frank Carmine Furlong, Abraham Ball, George Rudolf Jorjy, Leon Wolff.

*Gouverneur Hospital, New York City:* Albion James Fitzgerald.

*Metropolitan Hospital, New York City:* John Stoddard McCormick, Robert Wilhelm Helm, John Kenneth Crandall.

*St. Luke's Hospital, Utica:* Harry Day Parkhurst.

*Boston City Hospital, Boston, Mass.:* John Peter Byrnes.

*Philadelphia General Hospital:* Harry Theodore Wygant.

*Beth David Hospital, New York City:* Harry Okun.

*Auburn City Hospital, Auburn:* John Warren Gard.

*Hospital of the Good Shepherd, Syracuse:* Charles Aubrey Joy, John Deming Arnett.

*St. Mary's Hospital, Brooklyn:* Edward Cochrane John Costelloe.

*Mary Immaculate Hospital, Jamaica, N. Y.:* Nicholas Antonio Falvello, Edward Joseph Buxbaum.

*St. Luke's Hospital, Newburg:* Theron Smith.

*Englewood Hospital, Englewood, N. J.:* Parker Arthur Groff.  
*Utica General Hospital, Utica:* Cecil Charles Whittemore.  
*St. Francis Hospital, Hartford, Conn.:* Harry Stephen Reynolds.  
*Newark City Hospital, Newark, N. J.:* Frank Edgerton Deeds.  
*St. Joseph's Hospital, Far Rockaway:* Lawrence Jacobius.  
*N. B. Reid's Rome Infirmary, Rome:* Charles Adelbert Perry.  
*Mercy Hospital, Schenectady:* Robert Reid, Jr.  
*Polyclinic Hospital, New York:* Joseph Thomas Loughlin.

### THE ALUMNI DINNER.

The forty-first annual dinner of the Alumni Association was held at the "Ten Eyck," on Tuesday evening, May 26, 1914, at nine o'clock. About one hundred were present, including members of the Association, the guests, and members of the graduating class.

The retiring President, Dr. George H. Janes, acted as toastmaster. The occasion was one of reminiscence and regret, and was given to eulogy of the five retiring members of the Faculty, Professors Albert Vander Veer, Samuel B. Ward, James P. Boyd, Cyrus S. Merrill and Henry Hun. Hon. Danforth E. Ainsworth of Albany presented to the Acting Dean, Professor Willis G. Tucker, a silver loving cup, a recognition on the part of Professor Tucker's friends, of his long services for the College. Addresses were also made by Governor Glynn, the Reverend Roelif H. Brooks, and Dr. Albert Vander Veer.

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## Public Health

Edited by Arthur Sautter, M. D., Health Officer.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, MAY, 1914.

### Deaths.

Consumption .....	21
Typhoid fever .....	1
Scarlet fever .....	0
Measles .....	0
Whooping-cough .....	0
Diphtheria and croup .....	2
Grippe .....	3



Diarrheal diseases .....	4
Pneumonia .....	7
Broncho-pneumonia .....	3
Bright's disease .....	12
Apoplexy .....	10
Cancer .....	8
Accidents and violence .....	3
Deaths under 1 year .....	11
Deaths over 70 years.....	34
<hr/>	
Total deaths .....	140
Death rate (100,000 population).....	16.47
Death rate less non-residents.....	13.65
Death rate (110,000 population).....	14.98
Death rate less non-residents.....	12.41

*Deaths in Institutions.*

	Resident.	Non-Resident.
Albany Hospital .....	7	6
Child's Hospital .....	0	0
County House .....	3	4
Homeopathic Hospital .....	3	2
Home for the Friendless.....	2	0
Hospital for Incurables .....	2	0
Little Sisters of the Poor.....	2	2
Public Places .....	1	0
Penitentiary .....	0	0
St. Margaret's House .....	1	0
St. Peter's Hospital .....	5	5
Austin Maternity Hospital .....	6	0
Albany Hospital, Tuberculosis Pavilion.....	7	4
Labor Pavilion .....	0	0
<hr/>		
	39	23
Births .....	173	
Still births .....	12	
Premature births .....	0	

## REPORT OF VISITING TUBERCULOSIS NURSE.

Old cases .....	13
New cases .....	30
Returned from hospitals .....	16
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Total .....	59

*Disposition of old and new cases.*

Died .....	9
Sent to hospitals.....	13
To general tuberculosis nurse .....	34
Lost track of .....	1
Remaining under treatment .....	3
Visits made .....	72
Visits made (old cases).....	84
Calls for inspection only .....	6
Calls at Board of Health office .....	22

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive .....	12
Negative .....	31
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Total .....	43
Living cases on record May 1, 1914.....	340
Cases reported:	
By card .....	27
Dead cases by certificate.....	6
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Total .....	33
Dead cases previously reported.....	373
Dead cases not previously reported.....	6
Removed .....	13
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Living cases on record June 1, 1914.....	34
Total tuberculosis death certificates filed during May.....	339
Non-resident deaths—Albany Hospital Camp.....	21
<hr/>	
City tuberculosis deaths .....	4
<hr/>	
City tuberculosis deaths .....	17

## BUREAU OF CONTAGIOUS DISEASES.

*Cases Reported.*

Typhoid fever .....	1
Scarlet fever .....	9
Diphtheria and croup .....	9
Chickenpox .....	36
Smallpox .....	0
Measles .....	30
Whooping-cough .....	5
Consumption .....	33
Cerebro-spinal meningitis .....	1
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Total .....	124

*Contagious Disease in Relation to Public Schools.*

	Reported D.	S.F.
Public School No. 2.....	I	....
Public School, Seneca St. Chapel.....	I	....
Number of days' quarantine for diphtheria:		
Longest..... 26	Shortest..... 11	Average..... 18 2/6
Number of days' quarantine for scarlet fever:		
Longest..... 48	Shortest..... 26	Average..... 38 3/4
Fumigations:		
Houses..... 40	Rooms.....	272
Cases of diphtheria reported.....		9
Cases of diphtheria in which antitoxin was used.....		9
Cases in which antitoxin was not used.....		0
Deaths after use of antitoxin.....		2

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive .....	8
Initial negative .....	250
Release positive .....	11
Release negative .....	24
Failed .....	7
Total .....	300

*Test of Sputum for Tuberculosis.*

Initial positive .....	15
Initial negative .....	52
Total .....	67

## BUREAU OF MARKETS AND MILK.

Public market inspections .....	22
Fish market inspections .....	3
Milk depots inspected .....	13
Milk depots deficient .....	3
Milk wagons inspected .....	42
Milk wagons deficient .....	6
Milk houses inspected .....	7
Milk houses deficient .....	5
Dairies inspected .....	17
Dairies deficient .....	13
Dairies reinspected .....	7
Cows examined .....	166
Milk cans inspected .....	154
Milk cans unclean .....	12

Lactometer readings .....	64
Temperature tests .....	64
Fat tests .....	24
Below standard .....	1
Sediment tests .....	24
Sediment found .....	14

## MISCELLANEOUS.

Work certificates issued to children.....	15
Number of written complaints of nuisances.....	180
Privy vaults .....	4
Closets .....	0
Plumbing .....	35
Other miscellaneous complaints .....	141
Number of dead animals removed.....	637
Cases assigned to health physicians.....	77
Calls made .....	153

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**Medical News**

**Edited by Arthur J. Bedell, M. D.**

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR MAY, 1914.—Number of new cases, 223; classified as follows: Dispensary patients receiving home care, 17; district cases reported by health physicians, 6; charity cases reported by other physicians, 93; moderate income patients, 83; metropolitan patients, 24; old cases still under treatment, 176; total number of cases under nursing care during month, 399. Classification of diseases for the new cases: Medical, 35; surgical, 12; gynecological, 3; obstetrical under professional care, mothers, 54, infants, 53; infectious diseases in the medical list, 66. Disposition: Removed to hospitals, 21; deaths, 18; discharged cured, 118; improved, 33; unimproved, 9; number of patients still remaining under care, 200.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 4; nurses in attendance, 2; patients carried over from last month, 1; new patients during month, 3; patients discharged, 3; visits by head obstetrician, 0; by attending obstetrician, 0; by students, 27; by nurses, 30; total number of visits for this department, 57.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,891; for professional supervision of convalescents, 523; total number of visits, 2,414; visits to pay cases, 957; to charity cases, 934; unrecorded visits, 523; cases reported to the Guild by 3 health physicians, and 44 other physicians; graduate nurses 7, and pupil nurses 7 on duty; certified nurses, 2.



*Dispensary Report.*—Number of clinics held, 86; new patients, 123; old patients, 362; total number of patients treated during month, 485. Classification of clinics held: Surgical, 13; nose and throat, 6; eye and ear, 14; skin and genito-urinary, 5; medical, 12; lung, 12; dental, 0; nervous, 2; stomach, 3; children, 10; gynecological, 9.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—At the Annual Meeting of the Medical Society of the County of Albany, held May 12, 1914, the following resolution was presented to the Society and passed by that body: This resolution is to take effect immediately.

"A Committee of three, of whom the President shall be one, be appointed by the President, to whom all matters of medical interest for publication in the public press shall be submitted. That this committee shall have power to recommend or not the publication of such articles. That all such articles shall issue from this committee and otherwise anonymously. That publication of such article without recommendation shall *ipso facto* constitute unprofessional conduct of which the Board of Censors must immediately take cognizance."

GRANGE AWARDED SEAL SALE PRIZE.—TWO MONTHS' SERVICES OF PUBLIC NURSE PRESENTED TO WEBSTER ORGANIZATION BY STATE CHARITIES' AID ASSOCIATION.—Rochester, June 7th.—Webster Grange No. 436, near this city, by selling the largest number of Red Cross Christmas Seals in the 1913 Grange Campaign, under the auspices of the State Grange and the State Charities' Aid Association, won the first prize. The prize, donated by the State Charities' Aid Association, consists of two months' service of a public health nurse. The Webster Grange sold 8,255 seals.

W. N. Giles, Secretary of the State Grange and Chairman of its Public Health Committee, together with George J. Nelbach, Assistant Secretary of the State Charities' Aid Association, attended a special meeting of the Webster Grange on Saturday night and with appropriate ceremonies formally awarded the prize to the Grange.

Miss Elizabeth Hanson, the nurse who has been employed by the State Charities Aid Association for this work under the direction of the prize winning grange, has had a broad experience in public health nursing. She has been a member of the army nursing corps; head nurse of the Tuberculosis Department of the City Hospital of Minneapolis; head of a tuberculosis ward while in the army service and has been a very successful school nurse under the Board of Education of Minneapolis.

Lewiston Grange in Niagara County sold 3,425 seals, winning the other prize offered by the State Charities' Aid Association. Miss Hanson will be in Webster for two months and in the early part of August will go to Lewiston.

The work will consist of visiting the sick in their homes, instructing the well members of the families in the care of the patient, assisting the school medical inspectors, investigation as to the kinds and causes

of sickness, and the best means of solving the problem of home care in rural communities. In all cases, however, the nurse, as in all public health nursing, will work in co-operation with attending physicians and under their direction.

The employment of such nurses by town, village, and city health officers is authorized by the Public Health Law and the Public Health Committee of the Grange, the State Department of Health, and the State Charities' Aid Association hopes to make the work of the prize nurse an object lesson in practical public health nursing in rural communities.

THE LONG ISLAND COLLEGE HOSPITAL, Brooklyn, has undergone complete reorganization in order to meet the modern requirements of teaching medicine. It has instituted a five-year course to take effect in September of this year, and has arranged to add over twenty full-time members to its faculty and every department has been increased. The junior year will be given over to dispensary work and didactic medicine and surgery, and the senior year will be devoted entirely to bedside work in the hospital owned by the college, which, with the new addition, will give the institution 560 beds and make it one of the largest in Greater New York.

The following gentlemen will occupy the new positions on the faculty: Dr. Archibald Murray, Professor of Pathology; Dr. William Lintz, Professor of Bacteriology; Dr. John C. Cardwell, Professor of Physiology and Pharmacology; Dr. Matthew Steel, Professor of Chemistry; Dr. William Francis Campbell, Professor of Surgery; Dr. William B. Brinsmade, Professor of Clinical Surgery; Dr. Joshua M. Van Cott, Professor of Clinical Medicine; Dr. E. H. Bartley, Professor of Pediatrics.

HYGIENE AND THE RED CROSS AT THE SWISS NATIONAL EXHIBITION, BERNE.—Medical men will be interested in the Hygiene and Red Cross sections of the Swiss National Exhibition in Berne, which opened on May 15th and which will last until October 15th next.

In the Neufeld portion of the exhibition grounds, we find the Davoserhaus—a pavilion built by the Davos Tourist Association to illustrate the development of Davos as a health resort. Adjoining is the Pavilion of Balneology, built by various Tourist Associations to attract attention to the thermal Springs of various Swiss Spas, and opposite, we find the special Hygiene Exhibition. The exhibition has been partly arranged by the Swiss Hospitals and shows, among other things, an old-fashioned monastic medicine chest and a modern hospital dispensary. The Swiss Health office shows its methods of testing food with a view to preventing adulteration and also its methods of inspecting slaughter houses. Hospital wards are also exhibited, both as they were in former times and as they should be now, and a good deal of space is devoted to the work of the Red Cross and Ambulances Associations.

The foundation in the city of Geneva of the Red Cross dates back to the year 1863 and in August next it will thus be 50 years since this most noble of all institutions has been at work. A tree of genealogy will be the exhibit of the Red Cross at the National Exhibition and it will show the wonderful growth of the tiny seed which was sown fifty-one years ago, and which has brought so much comfort and sunshine to the sick and wounded.

The period of the exhibition has also been chosen by a number of congresses and conferences, both national and international, as an opportune moment for a meeting. So has the Swiss Society of Neurology, for instance called an International Congress of Neurology, Psychiatry and Psychology to be held at Berne from September 7-12th next. An organization committee and various international committees have been appointed.

**CHILD WELFARE CAMPAIGN EXHIBIT.**—An extensive campaign for the reduction of infant mortality in the State by means of lectures, literature and other forms of education and publicity has been inaugurated by the State Department of Health and itineraries for three exhibits are being prepared. They are planned not only instructive to mothers but to demonstrate the necessity and value of the visiting nurse, infant welfare stations and other welfare work. A series of public meetings will be arranged for each city visited and it is hoped that permanent welfare work will be organized in every city visited by the exhibits.

**ANTITOXIN FARM.**—The Hungerford Farm, Guilderland, has been sold to the State for \$9,500. The State will establish a farm for antitoxin and hygienic laboratories which have been maintained in Albany for many years.

**SANATORIUM OPENED.**—The dedication of a tuberculosis sanatorium for the employees of the Metropolitan Life Insurance Company took place at Mt. McGregor, Saratoga County, on June 20, 1914.

**A LOVING CUP TO DR. TUCKER.**—At the annual dinner of the Alumni of the Albany Medical College, held May 26th, a silver loving cup was presented to Acting Dean Willis G. Tucker, who retired on January 1 last after a service of nearly thirty-two years as registrar of the college. The presentation was made by Danforth E. Ainsworth, and addresses were made by Governor Glynn and Dr. Albert Vander Veer.

**AMERICAN COLLEGE OF SURGEONS.**—The second convocation of the American College of Surgeons was held Monday evening, June 22d, in the ballroom of the Bellevue-Stratford, Philadelphia.

**VACCINATE STATE HOSPITAL PATIENTS.**—Pursuant to orders of the Hospital Commission, patients at the Hudson River State Hospital, numbering more than 3,000, have been vaccinated by the asylum staff.

HEALTH NEWS.—This is the title under which the State Department of Health has issued its last Bulletin, and the first one for which Dr. Hermann M. Biggs, State Commissioner of Health, is entirely responsible. It is called the "Principal's Number" and is devoted to health work as it applies to the school and to pointing out the function of the school in public health education. In his letter to the principals of the State Dr. Biggs states that it will be the purpose of the department so to prepare the Monthly Bulletin that it will be of special service to the school principals throughout the State as well as to the local health officers and other health workers for whom it is particularly designed. It will be the aim of the editor to include in each number material which is timely and important for children to know. This will be summarized under the heading "School Health Lessons." Dr. Biggs asks the principals to see that the gist of this monthly lesson shall be read and explained to the children either by the principal or by some teacher appointed by the principal at a designated assembly when both teachers and pupils are present.

REPORT OF VITAL STATISTICS.—A warning has been issued to physicians and registrars throughout the State in regard to reporting vital statistics. It is the purpose of the department to use to its full extent the authority with which it is vested to secure obedience to the provisions of the law in relation to vital statistics. The following is the notice:  
To Physicians: The attention of all physicians is called to the provision of the said law.

Every physician in attendance upon a birth must, within five days after such birth, file with the local registrar a certificate thereof on the prescribed form. Every medical certificate of death must be made out by the physician, last in attendance, in the form and manner prescribed. Every physician, who has not already done so, must register immediately with the local registrar.

PERSONALS.—Dr. MICHAEL D. STEVENSON (A. M. C. '84) has removed from 39 South Ferry Street to 107 Grand Street, Albany, N. Y.

—Dr. JAMES G. BURTON (A. M. C. '94) has removed from Coopers-town, N. Y., to Pasadena, California.

—Dr. JOSEPH P. O'BRIEN (A. M. C. '98) has removed from 13 Walter Street to 232 Lark Street, Albany, N. Y.

Dr. WILLIAM F. CONWAY (A. M. C. '09) has removed from Chestnut Street to 411 Hamilton Street, Albany, N. Y.

—Dr. CLAYTON L. GIFFORD (A. M. C. '11) has opened an office at 518 Second Avenue, North Troy, N. Y.

MARRIED.—Dr. FREDERICK L. KREICKER (A. M. C. '11), Averill Park, and Miss Mabel Gertrude Illing, Friday, May 22, at Averill Park, N. Y.

—Dr. ORVIS A. BRENNENSTUHL (A. M. C. '13), Albany, and Miss Eleanor E. Slingerland, May 30, 1914, at Albany, N. Y.





CHARLES S. BARNEY, M. D.

*Albany Medical Annals*  
*July, 1914*



—Dr. S. BURT WOLBACH, formerly Director of the Bender Hygienic Laboratory and Professor of Pathology and Bacteriology in the Albany Medical College, and Miss Anna Florence Wellington were married in Boston, Mass., on June 10, 1914.

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DIED.—Dr. JAMES A. BLAKE (A. M. C. '68) died at his home, 352 Jefferson Avenue, Brooklyn, N. Y., June 9, 1914.

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## In Memoriam

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CHARLES S. BARNEY, M. D.

Dr. Charles S. Barney died at his home at Milford, N. Y., Tuesday evening, May 26, 1914, of Bright's disease. He was born in that village fifty-years ago. He graduated from the Albany Medical College in 1883, and was valedictorian of his class. He accepted a partnership with the late Dr. Chapman of Glens Falls, where he remained until his first marriage to Miss Lavinia Hawley of New York City. He removed to the city and gave up the practice of his profession for about two years. He then returned to Milford, settled at the old Barney homestead, resumed his practice, and had lived here since. He was a Democrat and held many village offices.

The following touching tribute to Dr. BARNEY from his neighbors was published in the *Oneonta Daily Star*:

MILFORD, May 27, 1914.—Our village is in mourning this morning because Charles Spencer Barney, the well-known citizen, the skilled physician, the loyal friend and genial companion is, humanly speaking, no more. He died at his home Tuesday evening, May 26, 1914, of Bright's disease, which had been undermining his naturally robust constitution for several months and against which he battled to the end with heroism and with hope. He was the eldest son of the late Ellery H. Barney and Mary Spencer and was born in this village February 1, 1859.

The parental families were both prominent and influential in the early history of town and county and he inherited many of the traits and faculties that brought him to the front in whatever circle he moved. He received a liberal education in the village school and at Hartwick Seminary at the time when in the former school Hon. D. F. Wilber was his classmate and chum. He was graduated from Albany Medical College in 1883, was valedictorian of his class, and indicated such proficiency in his profession that he was offered and accepted a partnership with the late Dr. Chapman of Glens Falls, where he remained until his first marriage to Miss Lavinia Hawley of New York City. He then removed to the city and gave up the practice of his profession for about

two years. He then returned to Milford, settled at the old Barney homestead, resumed his practice and had lived here ever since.

About twenty years ago his first wife died and in 1902 he was united in marriage with Miss Mae R. Stoutenburg, who survives him and has been nurse and companion in the months of his struggle against disease.

The doctor has been the recipient from his townsmen at one time or another of most of the honors Milford has had to confer. For several terms he has represented the town as supervisor; he was president of the village at the time the water system was installed and was instrumental in securing one of the best village systems in the State; he was a member of the board of education of the High School, village postmaster, one of the two county election commissioners and county physician at the time of his death. In politics he was a democrat, steadfast and unwavering in loyalty to party principles and for years had been the county committeeman from this town. Dr. Barney will be sadly missed in this community not only on account of his happy, pleasing personality, but by suffering ones who trusted implicitly in his skill and advice as a physician. Besides his wife, his only near surviving relatives are one brother, Kent Barney, and a nephew, Ellery Barney.

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Highly as Dr. Barney was esteemed in the town where he was born, and where for nearly all his busy life he resided, there will also be in a wider circle a sense of loss as deep, even if less intimate. His long term of service in the board of supervisors, and his official position as election commissioner of the county had given him a broad acquaintance and a multitude of friends which neither local lines, kinship nor party ties could limit. His death is the passing of one much respected and deeply beloved, and it will universally be regretted.

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#### JAMES H. REILLY, M. D.

Dr. JAMES H. REILLY, a native of Albany, and an alumnus of the Albany Medical College of the Class of 1886, died on June 17, 1914, at his home in Memphis, Tenn., after two weeks' illness. He was a son of the late Thomas Reilly and Johanna Geary Reilly of Albany, and was fifty-five years of age. He graduated from the Albany High School and after receiving his degree from the Albany Medical College began the practice of medicine in Vermont, where he spent six years. He then went to Memphis as physician for the Metropolitan Insurance Company, and was particularly well known as a specialist in obstetrics.

Dr. Reilly is survived by his widow, who was Miss Grace Williams of Albany, and two children, a son Lloyd and a daughter Eleanor. Lloyd Reilly is a student in Harvard University. Dr. Reilly was a man of a wide circle of friends who are grieved to learn of his death.



## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*The Practice of Pediatrics.* By CHARLES GILMORE KERLEY, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Octavo of 878 pages, 139 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00, net; half morocco, \$7.50, net.

The vigorous and rapidly-growing specialty of pediatrics has developed a voracious appetite for new and for more literature. This is an excellent sign in a healthy child. It is important, however, that the intellectual food should be such as can be easily absorbed and assimilated.

Doctor Kerley has already won many laurels as an author. His "Short Talks with Young Mothers" was favorably received and his book on "The Treatment of the Diseases of Children" soon required a second edition to meet the demand. Everyone who possesses a copy of this book will be eager for the more elaborate treatise which is now before us for review.

One is particularly impressed on reading "The Practice of Pediatrics" with the fact that it contains the personal experiences and expressions of personal opinion of the author and is not a compilation from other textbooks. Hence it can very properly be called "Kerley's Practice of Pediatrics."

The first 142 pages are devoted to the problems of nutrition and growth. In discussing maternal nursing, a note of optimism is struck when the author states that "the young mother of today is better able to nurse her offspring than was her sister fifteen or twenty years ago." He attributes this to the fact that the youth of the present day are more vigorous; are more nearly normal individuals than were those of an earlier day. The underlying principles which must be mastered in order to successfully and scientifically feed the baby deprived of breast milk are clearly explained. The day of advocating any special method in infant feeding has passed. Each baby's individual needs and digestive peculiarities have to be studied and the food modified and adapted for each individual case.

The author discusses the blood picture in different diseases and also takes up the question of blood pressure in children and the coagulation time. The entire chapter on blood and blood diseases can be recommended.

In the treatment of the different diseases, the author does not go into a long explanation of various drugs which may be used and various methods of treatment which can be employed, but generally states, "My present treatment is as follows," and gives that line of treatment which has been successful in his own practice.

An instructive chapter is entitled "Miscellaneous Subjects" and the practitioner will find many points which are not mentioned in other books. The following subjects are discussed in this chapter: heredity and environment, consanguinity, temperature in children, anesthetics, diagnosis in bone and joint diseases, etc.

A chapter is devoted to Suggestions in the Management, which discusses days to go out of doors, indoor airing, instructions for the summer, exercise, summer resorts, vaccination, etc., and an entire chapter is devoted to Gymnastic Therapeutics, a feature which was of great value in his work on "The Treatment of the Diseases of Children."

This book will soon pass into a second edition and a few changes and corrections could be made. In discussing the treatment of retropharyngeal abscess, more emphasis should be placed on the danger of using a mouth gag in this condition. In giving illustrative cases he mentions instances in which sudden death occurred where the mouth gag had been used, but does not emphasize it in his discussion of the treatment. In the treatment of pneumonia and nephritis he advocates the use of the Murphy drip but no mention is given as to the technique. The author does not mention the use of urotropin as a prophylactic and for treatment in infantile paralysis. In the treatment of pneumonia no mention is made of the use of the vaccines, while in the chapter further on devoted to vaccines, their use is described. In his description of urticaria, it is mentioned that certain articles of food, such as strawberries, tomatoes, etc., etc., cause urticaria in certain children, but no mention is made of the effect of egg in producing this condition in susceptible children. Under the discussion of difficult feeding cases, in the first part of the volume, a description of egg idiosyncrasy is given. These are minor criticisms, which do not affect the very excellent scientific value of the book.

"Kerley's Practice of Pediatrics" will be a welcome addition to the working library of both the practitioner and the specialist in children's diseases.

H. L. K. S.

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*The Ready Reference Hand-book of Diseases of the Skin.* By GEORGE THOMAS JACKSON, M. D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, New York. Seventh edition, thoroughly revised. 12mo., 770 pages, with 115 engravings and 6 colored plates. Cloth, \$3.00, net. Lea & Febiger, Philadelphia and New York. 1914.

The new issue of the second edition of this book is larger than the first and includes a discussion of many more diseases of the skin. In the first portion of the book is given Crocker's anatomical classification of cutaneous diseases which may be used as reference. In the text, however, the diseases are arranged alphabetically, which almost makes an index superfluous. The descriptions of the diseases are brief and clear

and the illustrations, while necessarily small to conform to the size of the pages, are especially good. The book is truly a hand-book in which the student and practitioner will find the essentials of skin diseases with valuable suggestions for their treatment. H. W. C.

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*A Treatise on Diseases of the Skin.* For the use of advanced Students and Practitioners. By HENRY W. STELWAGON, M. D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Seventh edition, thoroughly revised. Octavo of 1,250 pages, with 334 text-illustrations and 33 full-page colored and half-tone plates. Philadelphia and London, W. B. Saunders Company. 1914. Cloth, \$6.00, net; half morocco, \$7.50, net.

The 7th edition of this work has been extensively revised and brought abreast of the many advancements made in dermatology during the last few years. The sections on syphilis, pellagra and certain of the tropical diseases that are frequently seen among the immigrants, are admirable. The text is full without being redundant and many references appear in the foot notes for the benefit of those wishing to study special subjects more fully. The colored and half-tone plates are so numerous that they constitute an atlas of dermatology in themselves. The book must be looked upon as a standard work on dermatology and the best written in the English language. H. W. C.

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*Diagnostic Symptoms in Nervous Diseases.* By EDWARD L. HUNT, M. D., Instructor in Neurology and Assistant Chief of Clinic, College of Physicians and Surgeons, New York City. 12 mo. of 229 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$1.50 net.

Dr. Hunt's manual is a tabulated arrangement of the prominent symptoms of nervous diseases, and the conditions in which they appear. There are fourteen chapters, dealing respectively with deformities, paralysis, tremors, trophic disorders, gaits, ataxia, convulsions, sensation, reflexes, the eye, speech, aphasia and electric reactions, preceded by a chapter on "The Examination of a Nervous Case." Its value lies in the clear differentiation of each symptom, and of the variations of disordered nervous function, and as such it will be helpful to the beginner or the casual observer. The question may be raised as to whether the mnemonic method is substantial or of permanent value to the student of medicine. Dr. Hunt's book is a response to requests from undergraduates, and in this may be found the answer, but the conviction remains that lasting knowledge can only be obtained by association of the relations of symptoms to one another, and their common dependence upon a pathological condition. As a tabulated statement the book is accurate, well illustrated and comprehensive.

## NEUROLOGY

Edited by Henry Hun, M. D.

*Motor Aphasia and Apraxia (Motorische Aphasie und Apraxie).*H. LIEPMANN. *Monatsschrift für Psychiatrie und Neurologie*, Bd XXXIV, Heft 6, December, 1913.

Motor aphasia and apraxia are not only symptoms which occasionally occur in the same case, but they are often identical in origin. In a limited sense apraxia is a peculiar disturbance of muscle activity, manifested by irregularities of motion either in the extremities or in the cranial musculature, as that of the face and tongue. A distinction must be made between apraxia and other forms of muscular disability, such as paralysis, paresis, ataxia, tremor, spasm and other involuntary movements. In these the capacity for motion is damaged either by natural or acquired defect. Normally a sensory motor stimulus acts promptly upon the centripetal structures regulating the brain, cerebellum or subcortical centers, and there is a certain co-operative mechanism for the control of the muscles. When the motor elements of this apparatus are damaged either paralysis or paresis appears, and when the sensory regulating structures are affected ataxia or even choreiform, athetotic, or other similar involuntary motions follow.

It is important that the motor elements of this regulating apparatus have their full capacity in order to carry out voluntary motion, and when they are disordered either apraxia or dysapraxia results. Most important are certain definite combinations or simultaneous and successive muscle contractions which result as an innervation compact. These are due in large measure to education and experience and are different with different people. Certain registered memories of movement are developed without extending into the domain of consciousness, so that the nervous system may be said to possess an inherent knowledge of sensory-motor recollections. These may be called sensory-motor memories, and may be illustrated by the knowledge on the part of the individual resulting from habitual co-operation of the exact position and attitude of the limbs. There exists in consequence a mnemonic union of pure motor elements, and secondly a union of this cerebral function with the higher realm of consciousness, so that when unaccustomed movements are attempted these two regulating functions may be combined.

When a voluntary movement is undertaken there must first be a mental stimulus; secondly, the co-operation of the sensory motor consciousness, and, finally, complete co-operation between these two. Apraxia consists in some disturbances of these correlated activities and may result first from injury in the higher mental realm or in so-called mental apraxia; or secondly, in the disturbance of the sensory-motor combination or sensory-motor apraxia, or, finally, in dissociation between ideation and



muscular control or ideo-kinetic apraxia. This general grouping applies as well to the speech and to the co-ordinating activities of the lips, jaws, mouth, throat, tongue and face, as to the limbs. Disorder of speech is consequently not infrequently a result of apraxia, and as such may be differentiated from aphasia. Aphasia is due to disturbance of the left cerebral hemisphere, and the same is true of apraxia, which affects the function of speech. Although the muscular control of the left half of the body is in the right hemisphere there is a peculiar and intimate relation of the muscles of speech with intellectual processes, so that when the purely mental elements are concerned the left hemisphere may be regarded as the site of the lesion.

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*Familial Cortical Spasms (Der familiäre Rindenkrampf).*

J. RÜLF. *Archiv für Psychiatrie und Nervenkrankheiten*, Band 52, Heft 2, 1913.

The patient was a boy of thirteen years of age who experienced a sudden cramp in the right foot, which extended to the leg, and finally through the trunk, involving the arm and hand, and also at times affected the face, the mouth and the tongue. Attacks of this kind occurred at the instant when the patient was about to do something and made a quick movement for this purpose. Almost instantaneously he would feel a restriction, so that he could not move. If the spasm reached the face so that it was drawn, the speech for a moment would be prevented. Clonus was never noticed. There was no involvement of consciousness, although there were occasional attacks of vertigo. He would feel often a sensation of darkness or double sight. This condition continued for about two hours; it was never accompanied with headache or other pains. The attacks were not entirely limited to attempts to move about. They occurred while he was playing the piano, when the hands would become stiff, the arm would be adducted, and the hand somewhat flexed. Most of the attacks occurred in the right half of the body, although occasionally they appeared on the left side, and would then cease after the arm had become involved. This sort of seizure is evidently an entirely peculiar affection, apparently due to the extension of disturbance in the motor centers, as it involved in succession the lower extremity, the trunk, the upper extremity, the face, the mouth, and the muscles of speech. Evidently some form of Jacksonian epilepsy must be the first thought of diagnosis. An organic lesion cannot be assumed, particularly as the father and three brothers or sisters were affected in the same way. Furthermore, there were no general symptoms of cerebral tumor or other gross lesion, although the patient had had an insignificant blow upon the left side of the head during his early childhood.

Other analogous cases are reported which indicate a reasonable probability of what might be called functional spasm of Jacksonian type. Thomsen's disease is also suggested, but the seizures were not identical with those of myotonia and the electrical reactions were not characteristic. Tetany and pseudo-tetany are to be considered, but the seizures of tetany are usually bilateral and the other usually characteristic symptoms were wanting. Epileptic seizures of an atypical kind are suggested, but some important manifestations are wanting for this diagnosis.

In all of the cases reported by the author there was a neuropathic tendency to a distinct similarity of attacks in different members of the same families, and, furthermore, there was not a characteristic basis of genuine epileptic seizures, although emotional or so-called "affect" epilepsy has been described. These patients evidently present an unusual and peculiar form of familial or hereditary cortical spasm of motor type, which represents an inherited anomaly of function of the motor region. If we regard hysterical seizures as purely functional, it does not necessarily follow that every functional seizure is necessarily hysterical. In these cases there was abnormal irritability of the motor centers, and in some measure the characteristics of an intention spasm. It appears probable then that cases of this kind represent a motor neurosis of central origin, characterized by symptoms of the Jacksonian type, which may for the present be designated as familial cortical spasm.

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*Progressive Lipo-Dystrophia (Lipodystrophia progressiva).*

A. SIMONS. *Zeitschrift für Neurologie und Psychiatrie, Originalien, Bd. XIX, Heft. 4, 6 October, 1913.*

The patient described by the writer was a young woman of twenty-one years of age, who in her eleventh year showed a marked loss of weight, which showed itself first in bilateral wasting of the face, which gradually increased and spread over the trunk and upper extremities. The patient complained of weakness and of a sense of coldness. Objectively she showed complete loss of adipose tissue in the face, trunk and upper extremities, but there was an increase of fat in the buttocks and also upon the upper parts of the thigh. There was no atrophy of the skin at any point, and there was very little change in the muscles, which retained their normal electric excitability. The appearance of the face was very striking, and resembled that of a death mask. Sections of the skin which were removed as deep as the muscle fascia showed no evidence of fat, which is a very unusual condition, as slight evidences are found in the most advanced wasting of cancer and tuberculosis. The depth of the epidermis and the corium was normal throughout.

Another patient observed showed the same characteristics in which this peculiar absence of fat was shown in the upper part of the body and not in the lower. It appears that lipodystrophia begins in the developmental period, is always entirely without pain, and usually slow. The patients are usually healthy before the peculiar condition occurs, and show no neuropathic antecedents. Wasting usually begins in the face and spreads gradually downward. In one case only so far observed was the opposite noticed, and in this case the calves were first affected. The disease is evidently a tropho-neurosis.

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*The Treatment of Syphilitic Affections of the Central Nervous System with Especial Reference to the Use of Intraspinal Injections.*

HOMER F. SWIFT and ARTHUR W. M. ELLIS. *The Archives of Internal Medicine*, Vol. 12, No. 3, September 15, 1913.

The authors concern themselves with the determination of the most efficient methods of application of curative agents in syphilitic affections. The usual changes occurring in the cerebrospinal fluid in syphilitic central nervous systems are pleocytosis, with a predominance of mononuclear forms, an increase in globulin, and a positive Wassermann reaction. These abnormal constituents usually disappear more rapidly under specific treatment in involvement of the nervous system occurring early, than they do in such lesions occurring late in syphilis or in tabes or general paralysis, especially the latter. In late syphilis, the spirochaetes have established themselves in strongholds difficult to reach with our drugs.

Flexner and his co-workers have shown the necessity of directly introducing the therapeutic sera into the subarachnoid space in the various forms of purulent meningitis. The same principle no doubt holds true, to a considerable degree, in all forms of meningitis.

While rapid symptomatic improvement frequently follows the use of mercury and iodids, the relatively slight influence of these drugs on the abnormal constituents in the spinal fluid suggests at once the probability of subsequent relapse.

The idea of intensifying the treatment of syphilis of the central nervous system by the introduction of salvarsan directly into the cerebrospinal fluid naturally suggested itself.

The blood serum of patients treated intravenously with salvarsan has been shown to have had a definite therapeutic value when injected subcutaneously into patients with congenital and secondary syphilis. The serum of salvarsan-treated patients has also a definite anti-spirochetal effect, both in vitro and vivo. The authors' technic is as follows:

One hour after the intravenous injection of salvarsan, forty cubic centimeters of blood are withdrawn, allowed to coagulate and afterwards centrifuged. The following day, twelve cubic centimeters of serum is pipetted off and diluted with eighteen cubic centimeters of normal saline. This forty per cent serum is then heated at fifty-six centigrades for one-half hour. A lumbar puncture is done and fluid is withdrawn. The barrel of a twenty cubic centimeters Luer syringe is connected to the needle by means of a rubber tube about forty centimeters long. The serum is then poured into the syringe and allowed to flow in slowly by means of gravity. The authors cite various cases showing the effect of treatment on the spinal fluid content. Changes can be brought about by the intraspinous injection of serum alone, derived from patients who have received intravenous injection of salvarsan; thus the objection is met that the improvement was merely due to intravenous injection of salvarsan.

The authors are giving full doses of salvarsan—forty-five hundredths grams to five-tenths grams every two weeks and in addition intraspinous injection of thirty cubic centimeters of forty per cent serum, until the cerebrospinal fluid shows a normal cell count and a negative Wassermann reaction. The anatomical difficulties in reaching the myriads of spirochetes that are present in the brain in syphilitic infections, indicate the necessity of prolonged and vigorous treatment. The authors feel that there is definite evidence that this form of treatment has a curative action on the syphilitic process, and that, therefore, its combination with intensive intravenous treatment is indicated where specially intensive treatment is required, as in rapidly advancing tabes or paresis, or where the disease has resisted other forms of treatment.



# ALBANY MEDICAL ANNALS

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## Original Communications

### THE PATHOGENESIS AND SYMPTOMATOLOGY OF SYPHILITIC AORTITIS.

*Read before the Medical Society of the County of Albany at Albany, N. Y.,  
April 14th, 1914.*

By GEORGE BLUMER, M. D.

There is no darker chapter in the records of medicine than that relating to the prognosis of syphilis. The disease seldom appears in the bills of mortality under its own name. It is credited with causing 3,821 deaths during 1911 in the registration area of the United States, and practically 2,000 of these are stated to have occurred under the age of five years. Physicians are well aware that these figures are quite misleading, and that the disease in reality kills at least four or five times as many individuals as this. The main reason for the discrepancy between the reported and actual mortality from syphilis lies in the fact that secondary syphilis—if we exclude the rare cases of malignant syphilis—seldom causes the death of adults. The disease kills through its remote effects and can be best compared in this respect to acute articular rheumatism. We are only now beginning to recognize all of the late manifestations of the disease.

It is not so many years ago that tertiary syphilis was generally regarded as non-infectious, and it was some time after the discovery of the *treponema pallidum* before that organism was described in gummata and other tertiary lesions. It is only recently that we have come to the knowledge that diseases like general paresis, locomotor ataxia, and syphilitic aortitis are not parasyphilitic or metasyphilitic conditions but are active manifestations of the syphilitic virus. Besides this group of remote manifestations of the active disease, two other groups are worthy of attention: (1) diseases in which an apparent

relationship to syphilis has been proven by means of the Wassermann reaction but in which the treponema has not yet been found; and (2), diseases other than syphilis which appear to be unfavorably influenced by syphilis in some manner not yet discovered.

The work of Browning and his associates in the Glasgow Western Infirmary may be quoted to show the variety of lesions, some of which have been known for generations to be associated with syphilis, in which a positive Wassermann reaction may be obtained. Following is a table compiled from Browning's article which illustrates this point:

PERCENTAGE OF CASES SHOWING THE WASSERMANN REACTION.

Mental Deficiency and Epilepsy.....	46%
Congenital Heart Disease.....	17%
Congenital Deafness .....	6%
Acquired Deafness .....	11%
Oezena. . . . .	30%
Hemiplegia. . . . .	50%
Myelitis. . . . .	50%
Disseminated Sclerosis .....	28%
Primary Optic Atrophy.....	100%
Choroiditis. . . . .	5%
Iritis. . . . .	12%
Interstitial Keratitis .....	35%
Paroxysmal Hemaglobinuria .....	100%
Metritis and Uterine Hemorrhage without tumor.....	20%

The fact that syphilis may exert an effect upon the mortality of diseases which are not syphilitic in nature has not as yet been generally noted by the profession. The statistics of the Gotha Insurance Company are of great interest and importance in this connection. For forty-five years this company voluntarily received as risks acknowledged syphilitics, provided these individuals had undergone a thorough course of treatment and shown no active manifestations of the disease for a considerable period. The following table, quoted from the article of Deneke, shows the excess of mortality of the syphilitic risks over the non-syphilitic risks from a variety of diseases:

- 60% more syphilitics than ordinary risks died of new growth.
- 64% more syphilitics than ordinary risks died of kidney disease.
- 84% more syphilitics than ordinary risks died of stomach and intestinal diseases.

- 116% more syphilitics than ordinary risks died of circulatory diseases.
- 122% more syphilitics than ordinary risks died of suicide.
- 128% more syphilitics than ordinary risks died of apoplexy.
- 145% more syphilitics than ordinary risks died of mental and nervous diseases.

The question of syphilitic aortitis is, in certain of its aspects, no new one. Ambroise Paré, Senac, Fernelius, Morgagni and Lancisi—all of them recognized a relationship between syphilis and aneurysm, though it does not seem to have been perfectly clear in the minds of all of them whether aneurysm formation was due to syphilis itself or to the prolonged sweating and mercurial treatment by means of which the disease was combated in those days. From the beginning of the 18th century until the middle of the 19th century interest in this subject seems to have lagged. Then certain French and German physicians, and notably the English army surgeons, Lawson and Welch, once more emphasized the relationship between syphilis and aneurysm, the last-named observer elaborating the proofs in considerable detail. The conception of syphilitic aortitis as an underlying cause, not only of aneurysm but of other pathological and clinical pictures, dates back not more than thirty years, and was due mainly to the studies of the pathological anatomists and histologists. Virchow himself was a believer in syphilitic disease of the aorta, but it was the publications of Doehler and Haller which first focused the attention of the modern pathologists on the subject, and it was really not until after the meeting of the German Pathological Society in 1903 that, as a result of the reports of Chiari and Benda, pathologists in general recognized the existence of syphilitic aortitis.

Without going into minute details as to the pathological anatomy and histology of this condition, there are certain characteristics which are so important in their bearing on the clinical manifestations of the disease that they must be emphasized.

The location of the lesion explains many of the clinical peculiarities of aneurysm and of syphilitic disease of the coronaries and the aortic valves. It is the first part of the aorta, and often not more than the first five or six centimeters of the vessel, that is especially apt to be involved in syphilitic aortitis. This explains the frequent involvement of the aortic valves, it accounts for the involvement of the orifices of the coronary arteries, and it

makes clear why it is that aneurysms are so common in the thoracic aorta and so uncommon elsewhere. The naked eye appearances of syphilitic aortitis are usually quite different from those of ordinary arteriosclerosis. Calcification and extensive areas of softening are usually lacking in uncomplicated instances. The characteristic changes consist in alternating areas of proliferation and scar formation, giving the affected portion of the vessel a puckered appearance. The areas of scar tissue are often so thin that they have a bluish and almost translucent appearance, and small bulgings and aneurysms are not at all infrequent.

The essential feature of the microscopic anatomy, so far as its clinical bearing is concerned, lies in the fact that the disease is essentially a meso-aortitis. The primary change is probably in the vasa vasorum, cellular infiltration about these vessels leading to interference with the circulation of the vessel wall, necrosis of the middle coat, especially of the elastic fibres, and the formation of patches of scar tissue. It is worthy of note, too, that a perineural cellular infiltration is also a common find and doubtless accounts, to a considerable extent, for the pain which so commonly accompanies the disease. The discovery of the association of the *treponema pallidum* with the disease, which we owe to the work of Reuter, Benda, Schmorl, Wright and Richardson, and other later observers, was not established until 1906, and the occurrence of a positive Wassermann reaction in these patients was not observed clinically until 1908 when Citron first published his researches.

Before discussing in detail the clinical manifestations of syphilitic aortitis, there are certain general facts concerning the disease which are of importance. The period which elapses between the primary infection and the appearance of the symptoms of aortitis averages about eighteen years. In exceptional cases manifestations of aortitis may be apparent six months after the development of the primary sore. In other instances fifty years may elapse between the acquisition of the disease and the appearance of symptoms of aortitis. It seems certain that the disease is in its earlier stages latent, but how long this period of latency may last is not yet clear. The assumption of Grassman that because arrhythmia, murmurs and cardiac hypertrophy can be found in over 50% of patients with secondary



syphilis, this represents the period of origin of syphilitic aortitis, is, at least, incapable of proof, and on its face improbable. That the disease may remain in a latent condition for years there is little doubt, but it seems unlikely that in most of those who suffer from it it remains latent for seventeen or eighteen years. It is a disease of middle life, mostly observed in the latter part of the third, and in the fourth and fifth decades. It affects males more frequently than females; in the proportion of five to four, according to Oberndorfer. This latter fact is probably due to the more strenuous occupations of the male sex. Trauma and insufficient treatment of the early stages of the syphilis seem to be predisposing influences in some cases.

Symptoms, then, frequently do not appear until the last stages of luetic aortitis, and the manifestations of cardiac decompensation may be the first evidences of the disease. It is clear from this that in many cases early recognition is impossible, and yet it is for early recognition that we must strive, for in the late stages we can do little to alleviate the condition. Symptoms which are suggestive of luetic aortitis, especially when they occur in individuals without obvious cause for intrathoracic difficulty, are: a sensation of cardiac pressure or pain, slight dyspnoea, especially when this is paroxysmal in nature, unexplainable weakness, and painful sensations under the short ribs, the latter probably due to involvement of the origin of the intercostal arteries.

In outspoken instances of the disease it usually appears as one of three clinical pictures—aneurysm, angina pectoris, or aortic regurgitation.

Aneurysm represents the terminal state of syphilitic aortitis and is present clinically in about 11% of the patients. It is scarcely necessary in this place to go into detail regarding the symptoms and signs of aneurysm. It is necessary to point out, however, that all aneurysms are not syphilitic; some are mycotic; some are associated with ordinary arteriosclerosis, and the fusiform aneurysms particularly are quite frequently not of luetic origin. Only about 40% of patients with aneurysm give a definite history of syphilis, but, as all experienced physicians know, relying upon the history in the diagnosis of syphilis is leaning on a broken reed. About two-thirds of the cases of aneurysm give a positive Wassermann reaction, and the proba-

bility is that this percentage could be increased by means of preliminary provocative treatment. There are certain characteristics of the aneurysm of syphilitic aortitis which have been pointed out especially by Osler. These are: its not infrequent latency; the fact that it is one of the causes of sudden death; that it is the aneurysm of middle age; is often relieved symptomatically by medication, and is more frequently cured by thrombosis than was once thought. We might add to this that aneurysm in women is practically always syphilitic.

The association of the clinical picture of angina pectoris with luetic aortitis occurs in about 9% of the patients with this disease. There is nothing characteristic in the clinical picture to distinguish the anginal attacks from those associated with diseases other than syphilis of the aorta. Just one point may be made, however, and that is always to suspect aortic syphilis in an individual under fifty years of age who suffers anginal attacks not otherwise explainable.

About 80% of those cases of syphilitic aortitis which give rise to clinical manifestations present themselves under the picture of aortic insufficiency. According to Longcope, practically three-fourths of all cases of aortic insufficiency are of syphilitic origin. There are two other common types of aortic insufficiency: the rheumatic, which occurs mainly in young people, and the arteriosclerotic, which occurs mainly in old people. So far as age incidence is concerned, the luetic form stands between the other two. The clinical picture which is associated with aortic regurgitation from syphilitic aortitis is somewhat different in many minor respects from that presented by rheumatic endocarditis or involvement of the aortic valves in the changes of arteriosclerosis. The history of the antecedent syphilis is, of course, important when obtained. Its absence is of little value. The facies in the syphilitic patients is often quite different from that seen in the other forms of aortic regurgitation. Instead of the vivid coloring of rheumatic aortic disease, we often find a pallor, with a yellow tinge approaching the subicteric. Psychic manifestations are much more frequent in the patients with luetic aortitis. Depression, neurasthenic symptoms, restlessness and anxiety—in a word, what the Germans describe as a condition of “angstneurosis.” Paroxysmal dyspnoea is much more apt to be a feature of luetic aortic regurgitation than of the

other forms. According to Grau, both the symptoms and signs of aortic insufficiency are frequently diminished in intensity in the syphilitic cases on account of the fact that the entire thoracic aorta is often dilated and has largely lost its elasticity. As a consequence of this, the dynamic effects associated with the violent expulsion of blood from the heart, and with the violent recoil from the comparatively undamaged peripheral arteries, are modified by the interposition of the inelastic aorta. These patients, therefore, are less apt to suffer from the violent throbbing of the arteries and the cerebral symptoms which are such a prominent feature in some cases of rheumatic aortic disease, and they are also less apt to show on physical examination marked hypertrophy of the heart, and marked signs on the part of the peripheral vessels.

It is necessary to point out that in a good many instances patients present more than one clinical manifestation of aortic disease. Indeed, a patient with aneurysm may also have attacks of angina pectoris and an aortic regurgitation. It has also been demonstrated that the association of ordinary arteriosclerosis with syphilitic aortitis is not excessively uncommon, and that the same patient may suffer from both a luetic and a rheumatic involvement of his valves. The difficulty of reaching a correct diagnosis in the latter group of cases is obvious.

The complications which are likely to be associated with syphilitic aortitis are those produced by syphilis in other organs. Some form of syphilitic involvement of the nervous system is present in about 40% of the patients. The neurologists have long pointed out the association between tabes and aortic regurgitation, and between tabes and aneurysm. An association between general paresis and evidences of aortic syphilis is also very common; in fact Chiari has shown that on the autopsy table a large percentage of paretics show evidence of aortic disease. Needless to say that other syphilitic stigmata, such as pupillary changes, general adenopathy, gummata, and characteristic cicatrices are not infrequently found.

The factors concerned in the diagnosis of aortic syphilis have already been discussed to some extent under the symptomatology of the different forms of the disease. In all forms, however, there are certain common points of importance. The history of syphilitic infection is of the very greatest value when obtain-



able, but, as is well known, patients who have had this disease very commonly deny the fact, and a negative history is therefore of little value. Needless to say, a positive history of infections other than syphilis—particularly rheumatism, chorea and tonsillitis—is of importance in differential diagnosis. The age of the patient at the time of the development of the symptoms of cardiac or vascular disease is also of importance. Aortic disease occurring in middle life in patients with no obvious cause for its development should always lead to the suspicion of a syphilitic origin. The usual stigmata of past syphilis, when present, are, of course, of great value. The two most valuable aids to the diagnosis of aortic syphilis are the Wassermann reaction and the X-ray. As stated, the Wassermann reaction is present in a large percentage of patients with syphilitic aortitis. Its absence should not be accepted as proof of the non-specific nature of a cardiac or vascular lesion until it has been performed a second time, after a provocative salvarsan treatment. It is true that the percentage of Wassermanns, formerly negative, which become positive after provocative treatment is probably small, but not so small that it may be safely disregarded. The X-ray is of value not only in the diagnosis of actual aneurysms, but, as Eisler and Kreuzfuchs have shown, in the detection of the diffuse dilatation of the aorta which precedes aneurysm formation. Different types of pictures are obtained according as the lesion involves preponderantly the ascending portion of the aorta, the arch, or the descending portion.

The course and prognosis of syphilitic aortitis depend in the main on the early recognition of the disease, and at the present time we are not in a position to recognize the condition in its early stages because it is usually symptomatically latent. If patients who have had syphilis would make it a rule to submit themselves to periodical examinations, including a Wassermann reaction, the problem of prognosis in syphilitic aortitis, as in other forms of late syphilis, would be decidedly simplified. Needless to say, malignant types of syphilis in which the aorta is attacked give a poorer prognosis than the benign forms. The extent of the damage which has been done before the disease is recognized is also a prognostic factor of importance. Usually, with our present methods of recognition, the disease runs a fatal



course in from one to one and one-half years from the development of the symptoms.

The causes of death in these patients are generally anginal attacks, rupture of an aneurysm, or cardiac decompensation. Occasional patients are carried off by other forms of syphilis. Naturally some die of other diseases—tuberculosis, carcinoma, or colitis. In a number of instances suicide has been a cause of death.

Keeping in mind that syphilitic aortitis is a manifestation of active syphilis, and not a parasymphilitic disease, the treatment becomes obvious. The patient should be placed upon active anti-symphilitic measures. While mercury and the iodides have been used with some measure of success, it is perhaps best to rely primarily upon salvarsan on account of the rapidity and efficiency of that remedy. Ehrlich's original advice to avoid the use of salvarsan in patients with severe cardiac and vascular lesions has been quite widely disregarded and usually without untoward results. It is true that occasional fatalities have occurred, but inasmuch as the disease is one that of itself practically always proves fatal unless checked, it is justifiable to take the risk of placing these patients upon active salvarsan treatment.

The majority of the important references will be found in the following articles:

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|------------------------|-----------------------------------------------------|
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| ÖBERNDORFER.           | <i>Muench. Med. Woch.</i> , 1913, No. 10.           |
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## SPASMODIC CLOSING OF CEREBRAL ARTERIES IN ITS RELATION TO APOPLEXY.

*Read before the American Neurological Association at the Annual Meeting held at Albany, N. Y., May 7th, 8th and 9th, 1914.*

By ALFRED GORDON, M. D.

One of the fundamental principles in the physiology of the vasomotor apparatus is the existence of a central mechanism which lies in the medulla near the calamus scriptorius. Impulses

that continuously flow from this area maintain the tonus of blood vessels.

Destruction of this bulbar center is followed by abolition of the vasomotor reflex and the blood vessels remain dilated. Stimulation of the central ends of many nerves reacts reflexly on the blood pressure. Sollman and Pilcher (*Amer. Jour. of Physiology*, v. xxx, No. 303, 1912) have shown that division of both vagi stimulates the vasoconstrictor centre, that electrical stimulation of the afferent vagus causes vasoconstriction and that stimulation of the efferent vagus is followed by vasoconstriction referable to acute cerebral anemia.

For a long time there was a belief that cerebral blood vessels have no independent innervation and that they follow passively variations in blood pressure. Gradually this contention proved to be incorrect. It was observed that during inhalation of chloroform in spite of the fact that the blood pressure is low, the blood vessels are found dilated. Evidently chloroform has no direct influence on vessel walls, but on the vasomotor center, which is an indirect proof of dependence of cerebral blood vessels on this center. That the brain is capable to regulate its circulation by means of vasomotor influences is seen particularly from the researches of Müller and Siebeck (*Verhandlungen des Congresses der innere Medizin*, 1906, v. 23, 351). Their twenty-five experiments show that in a pronounced fall of blood pressure the cerebral blood vessels dilate. Vasodilation may also be observed alongside of fall in blood pressure when remedies such as strychnia are given which act as constrictors on the center. On the other hand there are poisons that act directly on the walls of the blood vessels, adrenalin for example. Biedel and Reiner produced contraction of the cerebral blood vessels by injection of adrenalin into the carotid arteries. Finally an anatomical proof of the independent innervation of the cerebral vessels was supplied by Obersteiner who showed the existence of nerve elements in the walls of those vessels. Gulland showed the existence of nerves on the pial vessels.

The above mentioned bulbar center is not the only one that has an influence on the vasomotor apparatus. Observations are on record which tend to prove that vasomotor disturbances may be also of cortical origin. Rossolimo reports a case of a cyst in one motor area with vasomotor disturbances in the contra-

lateral hand. When the cyst was removed the hand became normal. Friedländer and Schlesinger observed a case in which vasomotor disturbances followed the removal of a portion of cortex. Mager (*Arbeiten aus dem neurologischen Institute*, v. 16; 11; p. 340) reports two cases of brain tumor in the motor area with vasomotor disturbances. The cortex therefore contains a vasomotor center (presumably the motor area) from which probably run fibers to the center in medulla. One may be reinforced or inhibited by the other. When we take into consideration the above facts concerning the vasomotor function in our study of cerebral manifestations dependable upon local disturbed circulation, we observe that the latter finds its logical explanation.

Temporary contraction of cerebral blood vessels have been observed from suprarenal and pituitary glands. Cushing (*Amer. Jour. Med. Sciences*, c. xxlv, p. 375; 1902) demonstrated blanching of the blood vessels in the pia with adrenalin. Carl F. Wiggers has shown the same active vasomotor phenomena with drugs (*Amer. Jour. of Physiology*, 1908, xxi, p. 454). Temporary contraction of retinal arteries have been observed in quinine poisoning. Spasmodic contractions of cerebral vessels as well as other vessels have been observed in Raynaud's disease. Williamson in his work on diabetes mellitus calls attention to cases of intermittent hemiplegia occurring in the course of diabetes without any visible lesions at autopsy.

There is a well known group of cases which present such a characteristic clinical picture that the question of temporary closing of cerebral arteries may be answered in the affirmative. William Russell aptly compares it to a condition which has its legitimate place in medicine and is known as "intermittent claudication." The latter is due to an obstruction in the arterial supply when the muscles of the limbs are put into action. The analogy is evident if we apply the conception of this phenomenon to what occurs in the brain when we observe intermittent, temporary or transient attacks of hemiplegia or monoplegia. These attacks of paralysis may or may not be accompanied by aphasia of equally transient character. Instead of complete motor hemiparalysis there may be only hemiparesis or a very slight weakness. Sometimes there may be repeated attacks of paresthesiae

on one side and each sensory attack usually leaves a slight feebleness on the same side.

For a period of eight years I have been able to observe and follow up fourteen cases of this character. Six of them are still living; eight died and I succeeded in obtaining permission for autopsies. Every one of the patients was seen by me in each attack.

First group of eight patients who died.

The clinical histories are in their essentials identical. The main characteristic manifestation was a sudden onset of hemiparesies. The latter was never complete. Sometimes it was pronounced, sometimes moderate and at other times exceedingly slight. The degree of involvement of the limbs was in some attacks so imperceptible that with only a very careful test a slight difference could be detected in the power of the affected and unaffected extremities. The number of attacks varied from one individual to another. Two of the series had an attack about every three or four months. Others had them on rarer occasions, once or twice a year, one patient had but three or four during eight years. Finally three of them had very frequent attacks more of a sensory character than motor. Suddenly they would feel a tingling in one arm and leg, and sometimes only in the arm. This condition was always followed by a weakness on the same side.

All these attacks were transient. In the patients who had only three or four attacks the paralysis lasted longer than in those with a larger number of seizures. However, their duration was never longer than a few days. The briefest time was a few minutes. In some cases an attack lasted several hours. Two patients of this series had at first very short attacks, but later the attacks became more prolonged. It is interesting to note that no matter how slight the apoplectic attack may have been, there would always remain a certain degree of a paralytic state ranging from a mere weakness to a perceptible paretic condition. Objectively in the very mild cases I would find a difference in the dynamometric measurements of both hands, a slightly increased patellar tendon reflex on the affected side. While Babinski's sign was invariably absent, nevertheless stroking of the sole would give no response of the toes, but on the normal side a similar stimulation would produce a dis-



ting flexion of the toes. Oppenheim's reflex was always absent and the paradoxical reflex was present in six out of the eight cases. These pathological manifestations in the reflexes were present from the first attack even when the latter was of a sensory nature and persisted during the intervals between the individual attacks. It was also observed that very brief attacks occurred more frequently than attacks of longer duration. After a few slight recurrences the attacks became more prolonged. In all the eight cases the morbid motor phenomena became more pronounced when the attacks became more prolonged. Finally all the cases of the first series terminated with severe apoplectic insults, some with and others without aphasia. Henceforth the hemiplegic condition remained permanent. The subsequent histories of the patients present nothing that deserves special mention. They all came to autopsy and softening of various intensity and size was found. They all occupied the area of the internal capsule involving also portions of the basal ganglia.

The patients were all male individuals whose ages ranged from fifty-five to seventy. Six of them presented distinct clinical evidences of arteriosclerotic changes, viz., hardened peripheral arteries, high blood pressure, accentuation of the 2nd aortic sound. Two patients presented no hardening of the peripheral arteries, but their blood pressure ranged from 180 to 195. Four patients had a distinct syphilitic history, two had both syphilitic infection and chronic alcoholic intoxication. One patient showed symptoms of plumbism. One patient was a heavy smoker (from ten to fifteen strong cigars a day). The Wassermann reaction was positive in the first seven cases. The first five patients led a sedentary life and consumed large quantities of food. Iodides and mercurials were administered to all the eight patients. Only three of them consented to the use of salvarsan. It happened that these three patients had the very light attacks mentioned above. The effect of salvarsan was the prolongation of intervallary periods between the attacks. The same may be said with reference to mercury and iodids. Nitroglycerine administered early in the course of observation and kept up at various intervals, also the antisiphilitic remedies have to all appearances prolonged the lives of the eight patients.

Second group of six patients who are still living.

They all presented at various times intermittent attacks of

apoplectic nature. Four of them had a great many attacks of sensory, viz., paraesthetic nature: a sudden tingling in one arm or in arm and leg on the same side lasting but a few minutes and followed by a certain amount of weakness and numbness. Like in the first group this paretic condition persisted and in view of frequent repetitions of the attacks it remained permanent. After a long series of the brief sensory insults during a period of one to two years more serious and more prolonged attacks occurred. They consisted of both sensory and distinct motor manifestations simultaneously. Their number has been very limited, not more than three or four attacks occurred during the last two years. With each subsequent attack the paralytic condition was more and more pronounced. The last attack which occurred recently was a genuine apoplectic insult consisting of complete hemiplegia and aphasia. The latter was recovered only in two cases. The four patients are still living, but they are permanently affected and two of them are aphasic. Changes in reflexes have been observed in all four cases even at the first attack and increased knee jerk appeared from the beginning and remained permanent. Babinski's sign was absent in the purely paraesthetic cases, but it made its appearance when motor weakness became conspicuous. The paradoxical sign was not elicited at first but rapidly appeared even before the motor symptoms became pronounced. Ankle-clonus is evident now, but could not be brought out before the final complete hemiplegia developed.

The remaining two patients of this series present very interesting features. One of them is a physician presently seventy-five years of age who had three attacks within four years. The first attack consisted of a temporary aphasia with a weakness in the right arm. The aphasia disappeared in three hours; the paresis of the arm lasted four days. In spite of its apparent disappearance a certain amount of difference in power could be observed between the affected and unaffected sides. The second and third attacks were of similar nature; they occurred five and seven months respectively after the first attack. The last one occurred three years ago and since then no disturbance of the above nature took place. A close examination reveals even at present a slight difference in the dynamometric power of each hand; the knee-jerk is more easily brought out

than on the opposite side; stroking the sole of the foot on the right is followed by no response at all, but by distinct downward flexion on the opposite side. The paradoxical sign is distinct on the same side.

The other and the last patient presents an identical history except that he has had four attacks within three years. There has been no recurrence for the last two and a half years. He shows the same difference of power and reflexes of both sides as the other patient.

A close analysis of both groups of cases demonstrate one common fact that besides embolism, thrombosis and hemorrhage which are considered as the classical causes of apoplectic strokes there is also a condition which is of hemiplegic or hemiparetic character, but which is produced not by a material lesion of the blood vessel, but by such a functional disturbance of the vessel wall as to interfere with the circulation and therefore with the function of the nerve tissue supplied by this blood vessel. The temporary character of this disorder of function, the prompt or rapid recovery from the interfered function, finally and especially the intermittence and frequent repetition of the attacks—all these facts speak in favor of a condition which is totally different from a material obstruction of a vessel with an embolus or thrombus or from a hemorrhage.

In the introductory chapter of the subject the question of spasmodic contractions of cerebral blood vessels was discussed. Experimental and anatomical proofs were brought forward to substantiate the existence of a vasomotor display in the brain and therefore alternate contractions of the cerebral vessels are a phenomenon that must be considered as existing beyond any doubt. It is well here to call attention to additional evidence.

Lindsay Steven (*Proceedings of Royal Society*, 1907, 1, *Med. Sect.*, p. 116) speaks of a case with spasmodic contractions of the brain vessels and post mortem no arterial disease was found but an area of white necrosis was distinct in close vicinity of the blood vessel.

The above cited groups of cases show that intermittent closing and opening of the cerebral vessels are the only possible explanation of the temporary paralysis. Hemorrhage, embolism and thrombosis could not possibly be taken into consideration in the production of brief and intermittent attacks. Laceration



and softening of the nerve tissue would follow if those factors were at work. As such conditions cannot be restored, permanent paralysis is the usual outcome. None of my patients presented valvular disease of the heart so that the question of embolism could not be entertained. Besides, that emboli could be swept away in such a short time as the disappearance of paralysis occurred and that embolism could be repeated so frequently—all this would be most unusual phenomena. The same remarks may be made with reference to thrombosis as well as to hemorrhage. Moreover none of these material lesions could possibly explain the sensory viz. paraesthetic strokes which occurred so frequently in the early periods of the malady. It is apparently evident from the foregoing that we are dealing here with an irritable state of the vessel wall which leads to repeated sudden occlusion of a blood vessel and to suspension of function of the parts supplied by it because of local ischemia. The eventual histories of my cases show, especially in the first group, that after a certain number of brief attacks have occurred, the subsequent ones show a tendency to a greater duration and when the latter takes place, the morbid motor phenomena become more conspicuous. The weakness in the limbs, the increased tendon reflexes, the toe phenomenon—are all distinct and quite marked. It seems that repeated suspension of function of the nervous tissue led to a real damage, not great though, nevertheless sufficiently pronounced so as to increase the functional disability of the affected limbs. Finally the last attack in the cases of the first group rendered the condition permanent.

The gradual evolution of the manifestations, the mild character of the strokes at first, the gradual increase of the paralytic condition in subsequent attacks, the termination by serious strokes leading to permanent disability finally the autopsy findings almost identical in all the eight cases—all these features permit to draw this conclusion that the intermittent spasmodic contraction of the cerebral blood vessels gradually led to a destruction of the tissue supplied by them through a process of softening. The localized ischemia produced by the blood vessels, no matter how brief it may have been is not a matter of indifference to a highly organized substance as the nervous tissue. It would be a matter of great importance if more numerous autopsies could be secured at the time when only mild



or very mild strokes occur, such as we see in the case reported by Lindsay Steven (*loc cit.*). A better conception could be formed of the nature of the pathological process which the nervous tissue is undergoing then.

When we attempt to consider the causes of temporary or transient contraction of the blood vessels which lead to local ischemia, we must bear in mind a number of factors. The phenomenon is observed in compression of the vessels of the neck, in uremia, in cases of narcotic poisoning, in tumors, finally in degenerative states of the blood vessels produced by syphilis or arteriosclerosis. In my series of cases arteriosclerosis was evident in almost every instance. Syphilis, alcoholism and lead intoxication observed in some of these cases have been potent factors in the arterial disturbances. Arteries of such individuals are placed in most favorable conditions for degenerative changes. An irritative state is easily brought on. With years a diseased condition of the vessel walls is established with the result of final thrombosis. Softening or hemorrhage is the inevitable outcome in cases with arteries of this character.

My patients of the second group who are still living present practically the same fate as those of the first group. Two of them have already entered the period of permanent hemiparalysis. The other two are still having intermittent attacks each of which assumes a more and more serious aspect. All the four patients are advanced in years, their arteriosclerosis is quite conspicuous. The last two patients are evidently threatened with a final attack which will render them completely hemiplegic. The histories of all my patients demonstrate the fact that brief attacks of apoplectiform nature which repeat themselves in the life of an individual from which he recovers partially or completely, are an indication first of an unstable irritable state of the cerebral arteries, next of an imminent permanent hemiplegia which will eventually occur in the life of such an individual. The intermittent apoplectiform attack could be considered as premonitory signs and warnings of eventual complete occlusion of the cerebral vessels by a diseased process gradually developing in the vessel walls themselves.

This consideration of the pathogenesis of the diseased process under discussion must naturally influence the practical side of its therapeutics. From the foregoing remarks we can readily

see that diminution or possible avoidance of arterial irritability is the prime factor in management of cases of this character. But here we enter into a domain of metabolic changes, of accumulation of toxic products in the organism, into a domain of food, of drink, of habits, of hygienic and dietetic elements in general, of excesses physical and mental. But these purely therapeutic features, as well as administration of certain drugs such as nitrites, iodides, salvarsan, etc., are too well known factors in the management of circulatory organs to require any special comment. Preventive measures in this particular direction are perhaps of greater importance with regard to the pathological conditions under discussion than in many other forms of human ailments.

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## AN ANALYSIS OF THE DEATHS OCCURRING IN THE COURSE OF 1,573 SURGICAL OPERATIONS.

*Read before the Schenectady County Medical Society, April 15, 1914.*

BY E. MACD. STANTON, M. D., F. A. C. S.,

*Schenectady, N. Y.*

The following summary of the deaths occurring in the course of 1,573 surgical operations is reported because I believe that the problems here presented are, many of them at least, approximately those which the average surgeon is called upon to solve from time to time in the course of his work.

The study upon which this paper is based was undertaken in order that I might have a clear understanding of the causes responsible for the deaths which have occurred in the course of my operative work and thereby, in so far as these deaths were due to avoidable causes, be in a better position to avoid errors of technic and judgment in similar cases in the future.

For this purpose I have reviewed each case of death occurring in a patient operated by me during the period from July, 1907, to January 1, 1914, a total of fifty deaths in a series of 1,573 operations. In addition to the fifty deaths occurring in operative cases three patients under my care died without operation, and in order to avoid confusion as regards the question of

the selection of operative risks, these deaths are included in this analysis.

Autopsies were performed in twenty-seven of the fifty-two fatal cases or in practically every instance in which it was thought that additional information as to the cause of death could be obtained through an autopsy.

Each case has been studied with special reference to the factors which may have had a bearing on the outcome, such as the age and general condition of the patient, the gross and microscopic pathology of the surgical lesions present, and the immediate and remote causes of death. In each instance I have given particular attention to the consideration of other methods of treatment which might have been instituted with, possibly, a better prospect of success.

While it would be relatively easy to classify this material according to the disease, the cause of death, or in various other ways, the purpose of this study has been to search for possible errors in treatment and to plan safer and better methods of handling similar cases in the future, and from this view-point I have found it quite impossible to adopt any comprehensive classification, but for purposes of comparison, I will divide the deaths into four groups as follows:

I. Cases that were from the first hopeless, the operation, if any, having accomplished all that could reasonably be expected.

II. Bad risks, not necessarily hopeless, but which on subsequent study and reflection present to me no apparent means by which the treatment could have been improved upon.

III. Cases which might have died under any form of treatment, but which, with all the data now at my disposal, present in each instance obvious possibilities of improvement in the manner in which the case was handled.

IV. Cases in which the cause of death was definitely preventable and if foreseen could have been prevented.

I. In the group of obviously hopeless cases I have included fourteen deaths, as follows:

(III.)

Male, Age 50. Ref. by Dr. Fallon:

Septicaemia of unknown origin with some pus and blood in the urine from each kidney. Exploratory nephrotomy. No focal lesions found. This operation was undertaken as a last resort in a very thoroughly

studied and otherwise hopeless case. The operation had no effect on the outcome of the disease.

## (VIII.)

Female, Age 50. Ref. by Dr. Pearson:

Brain tumor with marked pressure symptoms. Cushing decompression operation. No shock. Some temporary relief. Death the day following operation. Autopsy showed a very extensive central glioma.

## (X.)

Child, Age 11 mos. Ref. by Dr. McElroy:

Symptoms of intra-cranial pressure, Cushing decompression operation. Death eight hours after operation. Autopsy showed basilar meningitis. This operation was done as a last resort in an otherwise hopeless case.

## (XXIV.)

Boy, Age 15. Ref. by Dr. McElroy:

Traumatic diaphragmatic hernia with empyema. Strangulation of hernia in empyemic plueral cavity. Died after operation to relieve the obstruction. An absolutely hopeless case.

## (XXV.)

Male, Age 55. Ref. by Dr. Racette:

Perineal prostatectomy. Death nineteen days after operation. Autopsy showed double pyonephrosis. Operation undertaken as a last resort with a full knowledge as to the seriousness of the condition.

## (XXXI.)

Adult male:

Sarcoma of antrum of Hymore with secondary involvement of base of skull. Superior maxilla resected before secondary involvement could be made out. Death from pulmonary embolus. The operation in this case probably hastened death by a few days.

## (XXXII.)

Male, Age 46:

Enormous hypernephroma with occlusion of vena cava. Exploratory operation. Severe hemorrhage during course of exploration necessitated removal of greater portion of growth. Death from shock five hours after operation.

The only way to have avoided this fatality would have been to have refused the patient the chance offered by the exploratory operation. Autopsy showed the case to have been hopeless from the first.

## (XXXIV.)

Male, Age 70. Ref. by Dr. Treder:

Recurrent carcinoma of prostate. Suprapubic cystotomy for relief of pain. Death nine days later. Operation accomplished all it was intended to and had nothing to do with the death of the patient.



## (XLIIL.)

Adult male. Not operated:

Over half of surface of body burned. An absolutely hopeless case from the very first.

## (XLIV.)

Female, Age 63. Ref. by Dr. Garlock:

Carcinoma of bladder with metastases to intestines, liver, and other intra-abdominal organs. Simple exploratory laparotomy to determine operability. Death from uraemia six days later. This case was obviously hopeless from the first and the operation had no effect on the outcome.

## (XLVI.)

Female, Age 37. Ref. by Dr. Hurst:

Fractured cervical vertebrae with complete paralysis below nipple line. Laminectomy. Cord found badly crushed. Death the day following the accident and operation. The cord lesion found proved this case to have been hopeless from the first.

## (XLVIII.)

Adult male:

Fractured skull. Operation, removal of depressed bone fragments. Autopsy showed almost complete destruction of both frontal lobes.

## (LI.)

Male, Age 21. Ref. by Dr. Bates:

Late general peritonitis moribund on admission. Operation to satisfy demands of family.

## (LII.)

Brain tumor with no pressure symptoms. Not operated. Autopsy showed Glioma involving chiefly the optic thalamus.

II. In the group of bad risks, not necessarily hopeless, but nevertheless limited to cases which do not, after subsequent study and reflection, present, in my opinion, obvious chances for improvement, I have included ten cases as follows:

## (XI.)

Female, Age 37. Ref. by Dr. Clowe:

Tuberculosis of caecum, hypertrophic type with partial obstruction. Excision of caecum. Death three weeks after operation. In this case there were no post operative complications referable to the region of the operation. Previous to the operation she had complained of some difficulty in swallowing which difficulty increased until death. Tubercular peribronchial glands were suspected but autopsy was refused. This death can in no way be credited to the operation.

## (XIV.)

Male, Age 65. Ref. by Dr. Schermerhorn:

Enlarged prostate with excessive hemorrhage continuing in spite of non-operative treatment. Suprapubic prostatectomy, bladder found filled to above umbilicus with blood clots. Direct blood transfusion twenty-eight hours after operation on account of anaemia. Died twenty-five days after operation of urinary insufficiency and exhaustion. This patient was at best a very bad surgical risk, operated at the time only because it was found impossible to control the hemorrhage by non-operative methods. The transfusion gave him an additional lease of life, but, I doubt if this patient could have been saved by any known method of treatment.

## (XV.)

Male, Age 35. Ref. by Dr. McPartlon:

Late peri-nephritic abscess with pyemia. This patient was very septic on admission and in spite of free drainage of the original and several metastatic abscesses the patient died of pyemia four weeks later.

## (XIX.)

Female, Age 40. Ref. by Dr. Ham:

Operated by Dr. McMullen February 3, 1910, for abscess in region of gall bladder and pylorus. The general condition of the patient was very bad at this time, and it was not determined whether the abscess was due to gall bladder disease or perforated duodenal ulcer. Simple drainage of abscess. Fistula persisted and general condition of patient improved until shortly before second operation, at which time she began to have recurrence of pain with evidences of toxic absorption.

Second operation (Dr. Stanton) November 30, 1910. Twenty stones found impacted in the gall bladder and cystic duct. Cholecystectomy without shock or operative accidents. Patient died in coma four days after operation. Autopsy showed acute cholangitis with region of operative work in good condition. The condition of this patient demanded the second operation and I do not see how the death could have been avoided.

## (XXIII.)

Male, Age 64. Ref. by Dr. Fay:

Pylorectomy for carcinoma. Death due to late secondary hemorrhage from a vessel situated in the head of the pancreas. At the operation it was found necessary to shave off a part of the head of the pancreas in order to remove the new growth. Convalescence was essentially uneventful until the morning of the fourteenth day, when, as the patient was planning to leave the hospital for his home, he was seized by a sudden, severe abdominal pain followed by pallor, collapse and death within half an hour after the first onset of trouble. Autopsy showed a hemorrhage from a vessel in the head of the pancreas the point of origin of the hemorrhage being surrounded by a small area of necrosis. The operative suture lines in the stomach were perfectly healed and there were practically no adhesions resulting from the operative work.

I know of no way to have avoided this accident.

## (XXVIII.)

Male, Age 46. Ref. by Dr. Keigher:

Pancreatic abscess. The upper abdomen was filled with an extremely tense retroperitoneal, fluctuating mass. General peritoneum protected with gauze pads and abscess opened by blunt dissection through gastrocolic omentum. Large amount of dark reddish, grumous, distinctly purulent material under great tension evacuated. The evacuation of this abscess was immediately followed by profound collapse which increased until death four hours later. Could the sudden relief of tension in this case have been avoided it is possible that we would have had little or no shock. However, the lumpy, grumous character of the contents of pancreatic abscesses precludes the use of a small trocar, and the structures forming the anterior wall of these abscesses are such that once punctured there is no way of closing the opening.

## (XXXV.)

Male, Age 37. Ref. by Dr. Groesbeck:

During an attack of septic sore throat which was then prevalent, patient developed severe griping diarrhoea with numerous watery bowel movements followed by symptoms of general peritonitis. Operation, thirty hours after onset of peritoneal symptoms, showed free sero-purulent fluid in peritoneal cavity, all loops of intestines greatly distended and markedly injected with a perforation in the caecum near the base of the appendix. The appendix itself showed no special inflammatory changes. Appendectomy with closure of perforation in caecum. Peritoneum drained with rubber tubes to pelvis and gauze to region of caecum. Death from sepsis thirteen days after operation. Abdomen was apparently clear at this time, but patient was always extremely septic. I know of no way to have avoided this death.

## (XXXVII.)

Female, Age 26. Ref. by Dr. Towne:

Admitted on third day of an attack of diffuse peritonitis. Death three days after admission. The illness in this case, as in the preceding, began as a septic sore throat followed by peritonitis possibly of appendiceal origin. The question as to whether or not this patient might have been saved by immediate operation is an open one. My own feeling is that the case was hopeless from the time of admission and that even the simplest operative interference would have hastened her death.

## (XLV.)

Female, Age 55. Ref. by Dr. Pashayan:

Intestinal obstruction. Operation excision of obstructing band, recurrence of obstruction a few hours later. Enterostomy, death on the seventh day. I had previously operated this woman four times at intervals of from several months to a year, always for intestinal obstruction due to her intestines kinking over isolated bands of adhesions. My only wonder is that she survived to the fifth operation.

## (XLIX.)

Female, Age 52. Ref. by Dr. Pearson:

Ruptured gangrenous appendix with diffuse peritonitis complicated by diabetes. Excised appendix and drained. Died in coma seventy-two hours after operation. The diabetic-coma was the cause of death and I can think of no plan by which the emergency met in this case could have been successfully dealt with.

The twenty-four deaths so far considered were, I believe, in the present state of our knowledge, essentially unavoidable. The remaining twenty-nine cases each presents some feature wherein some change might have been made in the management of the case with, I believe, a better prospect of success. In nineteen the chances of having saved the patients even by the revised-plan treatment are more or less problematical while in ten I am certain that the fatal result might have been avoided.

III. The cases in which it seems highly probable that the treatment could have been improved upon are as follows:

## (I.)

Female, Age 21. Ref. by Dr. Clowe:

Brain tumor with marked pressure symptoms including optic atrophy. Cushing sub-temporal decompression operation. Very marked bulging of dura. Shock immediately following incision of dura. Death fourteen hours after operation.

Subsequent writings of Dr. Cushing and others have shown that it was probably an error in judgment to have incised the dura at the primary operation. It would have been safer to have stopped after excising the bone allowing for temporary partial decompression by the simple bulging of the dura.

## (II.)

Female, Age 9. Ref. by Dr. Bryant:

Acute appendicitis with very severe diffuse peritonitis of approximately three days' standing. On admission this patient was put on the Ochsner treatment, and within thirty-six hours the temperature was 100° F., with a pulse of 100; there was no vomiting, and the general condition was much improved. The patient was now transferred from one ward to another, and immediately following this transfer there was an increase in the abdominal distention and the general condition of the patient became very grave. Two days later the pulse and general condition were somewhat improved. The abdominal distention was still marked but the rigidity was beginning to be localized in the right lower quadrant. I should have left well enough alone at this time but becoming impatient and hoping against my better judgment that incision and drainage might "relieve tension" and lessen the toxaemia I opened the abdomen through



a right rectus incision, and found a typical sixth day diffuse lesion, characterized by multiple small foci of pus separated by a sticky fibrinopurulent exudate. One rubber tube and several gauze wicks were inserted, and a large moist boric dressing applied. Except for a slight rise in temperature eight hours later the operation caused no appreciable change in the patient's condition. Treatment was continued as before the operation. Two days after the operation, the distention began to lessen and the evidences of diffuse peritonitis finally subsided, but symptoms of septic absorption persisted, and although I was certain that a localized abscess or abscesses existed at a point not reached by the drains the position of the abscess was not determined during life. The patient died twenty-three days after operation. Autopsy showed a sharply localized deep pelvic abscess which should have been discovered by rectal examination.

## (IV.)

Female, Age 44. Ref. by Dr. Murray:

Supra-vaginal hysterectomy for multiple fibroids. Unusually smooth post-operative convalescence until the evening of the ninth day. Sudden pulmonary embolus and death.

This death represents one of the accidents over which we have no direct control. However we have fairly abundant statistical evidence to the effect that the frequency of these accidents is lessened in surgical and obstetrical work by early rising after operation or confinement. I have never felt justified in getting my patients out of bed sooner than two weeks after a hysterectomy, but since the above accident I have tried to counteract the effects of vascular stasis by insisting on active resistance exercises, especially of the lower limbs, beginning the day following the operation and continuing in a systematic manner until the patient is out of bed.

## (V.)

Female, Age 63. Ref. by Dr. Towne:

Acute appendicitis operated during the third day of the attack. An old lady, who for some time previous to the attack of appendicitis, had had a very irregular intermittent pulse and who looked like a desperately bad risk from the very first. The appendix was excised and the abdomen closed without drainage. This patient did well for two days when she developed symptoms of localized peritonitis with a low grade infection of the abdominal incision. There was only moderate distention and no vomiting, but the patient died four days after the operation of toxæmia and heart failure. Probably I should have drained this case but the abdominal conditions did not seem to warrant it at the time of the operation, and I thought it better to risk the absence of drainage rather than to subject the patient to the more tedious convalescence which would have been necessitated by drainage.

## (VI.)

Female, Age 41. Ref. by Dr. Hughes:

Carcinoma of rectum. Excised Quenu-Tuttle operation. Death

from shock twenty hours after the operation. Autopsy showed operative field in good condition. Today I would not attempt such an extensive one stage operation for this condition but would do an inguinal colostomy, followed at a later date by an excision of the growth. However, in 1908 the Quenu-Tuttle operation was the one advocated by most surgeons for carcinoma of the rectum.

## (VII.)

Female, Age about 35:

This patient was admitted on the fifth day following delivery and on the third day of a general peritonitis. On admission the abdomen was absolutely rigid, the skin was cold and clammy, and the pulse could not be counted at the wrist. The patient was put on the Ochsner treatment, and I fully expected her to die within a few hours. Much to my surprise she survived the night following admission and was decidedly better the next morning, and continued to improve until the temperature reached normal on the ninth day of the peritoneal infection. I should have operated at this time but owing to some difficulty in reaching her relatives the operation was delayed for four days. In the mean time a left parotiditis had developed. I operated on the thirteenth day of the peritoneal infection and drained a well-defined abscess containing more than two quarts of pus. The patient died suddenly of asphyxia due to Ludwig's angina three days after the operation. The abdomen was perfectly flat at this time, all symptoms of an active peritonitis having disappeared.

This case should have been operated on the ninth or tenth day or as soon as I was sure that I had a localized abscess. Operation at this time would probably have forestalled the development of the metastatic infection.

## (IX.)

Male, Age 67. Ref. by Dr. Lord:

Enlarged prostate histologically malignant. Perineal prostatectomy after the method of Young. The two very large lateral lobes were removed together with a third mass of prostatic tissue thought at the time to have been the median lobe. A few hours after the operation the perineal drainage tube became obstructed and three other tubes of large caliber inserted on subsequent days all became promptly obstructed. Supra-pubic cystotomy on fifth day after operation. Death six days after operation. Autopsy showed a 2 c.m. in diameter globular mass of prostatic tissue attached to a piece of bladder mucosa. Also a papillomatous mass on bladder wall near the internal meatus. The piece of prostatic tissue and papillomatous masses had obstructed all drains introduced through the perineum.

Obviously this patient should have been operated by the supra-pubic route but at the time of this operation (January, 1909), without definite indications to the contrary, the perineal operation was generally supposed to be the operation of choice. Cystoscopic examination previous-

to operation would have furnished the necessary contra-indications to the perineal operation but the cystoscope could not be passed in this patient. It was an error in judgment to persist five days with attempts at perineal drainage. A suprapubic drain should have been inserted at least as early as the second day.

(XVIII.)

Female, Age 67. Ref. by Dr. Strang:

Intestinal obstruction, complete of five days' standing. Fecal vomiting, general condition bad. Clinical diagnosis, probable obstruction of descending colon. Operation, right McBurney incision, caecum greatly distended, gas escaping from stitch holes while doing caecostomy. Death eight hours after operation. Autopsy showed the obstruction to be due to the strangulation of about fifteen centimeters of ilium in a retro-peritoneal hernia lying behind the caecum. This case presents some very interesting points. Owing to the patient's condition it is doubtful if the strangulated ilium could have been successfully dealt with even if I had found it. The condition of the patient was such as to preclude extensive exploration of the abdomen and I did not feel justified in looking further after finding the distended caecum, however, the great distention of the caecum encountered in this case was not accompanied by any noteworthy discoloration nor injection such as one finds in the walls of a gut above an acute obstruction, and this should have led me to suspect that I was working below the true obstruction.

(XXI.)

Female, Age 34. Ref. by Drs. Collie and Stover:

Exophthalmic goiter. When first seen this patient was suffering from a very severe grade of intoxication with well marked evidences of cardiac incompetency. It was therefore planned to attempt only a simple ligation after prolonged rest and medical treatment, but under rest in bed, her condition improved so rapidly that at the time of her operation it was deemed safe to do a complete excision. As to the best method by which to have handled this case we have abundant opportunity for speculation. Today I would look upon her as an ideal case for preliminary treatment with the boiling water injections of Porter. A simple ligation under local anaesthesia would be my next choice but the great error which I did make was to attempt to operate in another city where the operation could not be managed early in the morning.

The night before operation her pulse was 110 and subsequent experience has shown me that if I had begun the operation almost as soon as she was awake the next morning we would have been all through before the storm of hyperthyroidism had had time to develop. As it was by 10 A. M. when the operation was started, she had had three hours of fretting under the careful supervision of anxious relatives, and conditions were so bad that I should have made no attempt to operate at this time.

## (XXVI.)

Female, Age 48. Ref. by Dr. Burke:

Common duct obstruction with jaundice of over three years' duration. Areas of subcutaneous ecchymosis. A few minutes before beginning the anaesthetic this patient was given 15 c.c. of sterile rabbit's serum according to the method of Munroe. Just as the anaesthetic was started the previously rather phlegmatic patient became wildly excited, resembling a highly toxic exophthalmic goiter case. Even when under the anaesthetic the patient jerked and twitched in semi-convulsive movements. I was not present during the anaesthetization or would probably have recognized the symptom-complex. Patient died suddenly on the table a few minutes after commencing the operation. Autopsy showed a single large stone in the retro-duodenal portion of the common duct. No gross pathology to account for the sudden death. This death was undoubtedly due to anaphylactic shock following the injection of the rabbit's serum.

With the increased knowledge which we have today concerning the dangers of anaphylactic shock it should be possible to avoid such deaths in the majority of cases.

## (XXIX.)

Male, Age 49. Ref. by Dr. Fallon:

Late thrombosis of the internal carotid artery following a Crile block dissection for cancer of the cheek and cervical lymph nodes. In this case the external carotid had been ligated proximal to the point where the superior thyroid branch is given off. The ligation thrombus extended down to and finally involved the internal carotid. As this same accident has been reported by a number of other surgeons one should always, if possible, ligate the external carotid distal to the point at which the superior thyroid branch is given off. A clot extending back to the first collateral branch would thus not endanger the internal carotid.

This death must be attributed to an error in judgment. I could have ligated the external carotid distal to the superior thyroid branch, but this would have necessitated a close dissection in a mass of metastatic glands, and I thought at the time that it was better to take a chance on the thrombosis rather than to endanger the principle of the block dissection.

## (XXXIII.)

Male, Age 59. Ref. by Drs. Heatley and McDonald:

Complete prostatic retention. Unable to pass any catheters. Bladder had been emptied by suprapubic punctures, about forty in all, extending over a period of ten days before I saw him. Preliminary suprapubic cystotomy under cocaine anaesthesia. Eight days later suprapubic prostatectomy through old incision. Considerable but not alarming post-operative hemorrhage. Sudden death eight hours after operation. Autopsy showed a firm right-sided cardiac thrombus. His heart action had been very bad by spells ever since his admission to the hospital, and it is quite probable that the beginning of the thrombus dates back to these sinking spells, yet, I have always had a feeling that the patient lost too



much blood immediately following the second operation and that the thrombus may have been a terminal affair coming on during shock. I have seen a number of prostate cases lose more blood without alarming symptoms, but since this death I have been much more careful to control hemorrhage in my cases of suprapubic prostatectomy.

## (XXXVI.)

Male, Age 65. Ref. by Dr. L. Faust:

Carcinoma of the lower lip and jaw. Excised lower lip and part of inferior maxillary bone under intratracheal anaesthesia. On removing intratracheal tube at close of operation it was found that the excision of the inferior maxilla, including the attachments of the genio-hyo-glossus and genio-hyoid muscles to this bone so interfered with the action of these muscles as to allow the tongue to fall back and seriously obstruct respiration. These muscles were immediately caught up on a silver suture and the tongue drawn forward but the difficulty in respiration was only partially relieved, and it was found necessary to do a tracheotomy in order to relieve the respiratory difficulty. The patient died of pneumonia six days after operation.

The growth was so situated that interference with the muscles could not have been avoided. The technical difficulty encountered in this case should, however, be possible of correction by using some form of bridge to take the place of the excised bone.

## (XXXVIII.)

Female, Age 35. Ref. by Dr. Johnson:

Gall stones with symptoms of two years' duration. Moderate jaundice of twenty-four days' duration, not improving under medical treatment. Operation cholecystotomy. Ducts very carefully palpated but no stones found in ducts. A number of small stones were removed from gall bladder. Notwithstanding a free drainage of bile following the operation, this patient developed a most intense jaundice and died on the third day following operation with symptoms of cholangitis and liver insufficiency.

Events showed that it was an error in judgment to have operated at this time. The obstruction was due chiefly to cholangitis and swelling of the ducts, and I believe she would have had a better chance had she been treated conservatively until the jaundice had cleared up.

## (XL.)

Female, Age 24. Ref. by Dr. McElroy:

Double tubercular salpingitis with adhesions to sigmoid and small intestines. Excised both tubes and ovaries and searched exposed intestines for fistulae. Pelvic cavity drained with vioform gauze and rubber tube.

Eight ounces of normal salt, given per rectum soon after the operation, came out through the abdominal drainage and the patient died of general peritonitis twenty-two hours after the operation.

Autopsy showed a fistulae in sigmoid opening into a small retrosig-

moid abscess, which in turn communicated with the general peritoneal cavity through a defect in the wall of the abscess caused by removing the left tube.

The fistulae in this case was so situated that it could not have been located without an unwarranted loosening of adhesions in the region of the sigmoid. However, the frequency of fistulae, often very small and difficult to locate, in cases of tubercular salpingitis is so well known that I believe it was an error in judgment to give the saline enema before a sufficient period of time had elapsed to permit of walling off around the drainage. Had the saline been withheld for six or eight hours or longer and then given by the Murphy drip method this patient would have had a good chance of recovery.

## (XLII.)

Female, Age 44. Ref. by Dr. Hughes:

Very severe exophthalmic goiter, operated after six weeks' rest in bed. Excised right lobe of thyroid. There was little post-operative hyperthyroidism in this case, and twenty-four hours after the operation I thought she was going to recover, but the patient died suddenly apparently of acute cardiac dilatation thirty-eight hours after operation.

It is possible that this case might have been saved by the use of hot water injections as advocated by Porter. However, it is doubtful in my mind if the cardiac condition was capable of repair, and I suspect that this woman would have died within a few weeks under any plan of treatment.

## (XLVII.)

Male, Age 57. Ref. by Dr. Bates:

Carcinoma of the stomach with toxemia, probably acidosis. Operation, pylorotomy with posterior gastroenterostomy. Death in coma two days after operation with no symptoms referable to failure of operative technique.

The really important fact in this case is that in addition to the pyloric obstruction we were undoubtedly dealing with a case of acidosis such as has recently been so graphically described by Russ<sup>1</sup> and others. The seriousness of the intoxication in this patient was fully recognized previous to the time of operation and he had been kept under treatment in the hospital for several days in the hopes of lessening the toxemia, but without any result. Had I tested the urine previous to operation and found an excessive quantity of acetone it might have been possible to have instituted a really effective pre-operative treatment for his toxic condition.

## (L.)

Male, Age 52:

Carcinoma of stomach with pyloric obstruction. Posterior gastroenterostomy, ether anaesthesia. Developed pneumonia two days after operation and died six days after operation.

<sup>1</sup> Acidosis as a complication after surgical operations. J. A. M. A., 1913. LXI, 1618.

Autopsy showed abdominal cavity absolutely clean and region of operation in perfect condition. Lungs showed extreme anthracosis with chronic fibrous induration plus an extensive acute broncho-pneumonia. This patient had suffered from miner's asthma for many years. It is possible that the pneumonia could have been avoided in this case by a gas-ether anociassociation technique such as is used by Crile.

(LII.)

Female, Age 60. Ref. by Dr. Racette:

Operated under the diagnosis of a strangulated hernia, a large inguinal hernia having become greatly enlarged and irreducible at the onset of symptoms. A diffuse peritonitis of unknown origin was found and drained through the inguinal ring after reducing the hernia. The condition of the patient did not warrant further search for the cause of the peritonitis. She was put on the routine post-operative treatment and much to my surprise in forty-five hours the abdomen was flat and the general condition was excellent. At this time, liquids by mouth were ordered, with the result that within two hours the patient went into a state of collapse and died a few hours later. Autopsy showed a perforated duodenal ulcer.

Possibly this patient could have been saved had the duodenal ulcer been even suspected, but previous to the frank terminal perforation the subjective and objective symptoms had all been referred to the region of the acutely swollen hernia. It is my opinion that in this case we first had a slight leak from the stomach, the infective material gravitating at once to within the hernia sac, where a localized peritonitis was set up, later the infection from the hernia sac extended back into the general peritoneal cavity. Still later we had the frank perforation of the duodenal ulcer.

IV. Cases in which the direct cause of death was definitely preventable. Ten deaths are included in this group, each of which could undoubtedly have been avoided had I been able to foresee the trouble which was coming. These deaths were preventable, and yet, a study of the individual cases composing the group convinces me that to reduce this class of mortality in future work will require the very best of surgical judgment, the most careful technique and a very nearly perfect interne and nursing organization.

(XII.)

Male, Age 55:

Agonizing attacks of pain in right upper quadrant at irregular intervals during past four years. History of jaundice with two attacks. Diagnosis gall stones, with a suspicion that the attacks might be due to some cardiac-vascular crises. Exploratory laparotomy. Gall bladder, stomach and kidneys negative. Palpable sclerosis of vessels in region coeliac axis. Chronic obliterative appendices. Excised appendix. Two

days after operation developed pneumonia and died six days after operation.

Events proved that this man should not have been operated at all. Yet he had been under observation for nine months previous to the operation, always with a suspicion that we were dealing with a non-surgical crises, which suspicion could not be proved. I believe the exploratory operation was fully justified.

## (XIII.)

Female, Age 19. Ref. by Dr. Johnson:

Intestinal toxemia of excessive grade. Obstinate constipation averaging five to fourteen days between bowel movements. Appendectomy one year previous. Operation disclosed an enormously elongated and dilated ascending and transverse colon with no fixed attachments even at the hepatic flexure. Normal attachment at splenic flexure with approximately normal sized colon below the kink at the splenic flexure. Excised ascending and transverse colon followed by a ileo-cotostomy after method of Lane.

The patient did quite well for twelve days, when she fell out of bed, following which she developed symptoms of peritonitis and died fifteen days after operation. Autopsy showed that an interrupted stay suture, placed to reinforce the purse string suture closing the stump of the colon, had cut through probably at the time she fell out of bed, causing a 3 m.m. in diameter perforation in the colon. This death would probably have been avoided had the patient not fallen out of bed, but it could certainly have been avoided had I reinforced my row of interrupted sutures which penetrated all coats of the bowel with a continuous Lembert suture penetrating only the peritoneum and muscular coats.

## (XVI.)

Female, Age 30. Ref. by Dr. Murray:

This patient had been ill three weeks with what I diagnosed as pelvic peritonitis. The temperature had ranged from 99 to 101 and the predominating symptoms when I saw her were those of peritoneal irritation involving the small intestines. She was sent to the hospital with the intention of operating the following day, but by morning her condition was seen to be improving so markedly that the operation was deferred. Finally it was decided to operate the fifth day following her admission, but at 3 A. M. on the morning she was to be operated the patient woke out of sleep, raised up in bed, fell back gasping for breath, and died at 3:20 A. M.

Autopsy showed an extra uterine pregnancy with the tube adherent above the pelvic brim. The hemorrhagic mass being surrounded by loops of small intestines. Death in this case was due to an error in diagnosis which was, however, partially justifiable owing to the abnormal position of the tube. The clinical picture which had held my attention was always referable to the involvement of the small intestines in what I took to be an inflammatory process.



## (XVII.)

Female, Age 30. Ref. by Dr. Betts:

Patient complained of left renal colic. Cystoscopic examination showed the left ureter swollen and pouting. Collargol plate of left kidney showed normal pelvis and no stone in ureter. Pelvic examination showed inflammatory mass in left fornix. Laparotomy. Left tube and ovary firmly bound in region of ureter. Left tube and ovary excised, abdomen closed. Patient died two days after operation with general peritonitis. Autopsy showed that the stitch ligating the very short left ovarian pedicle had been passed through the ureter and that the urine had leaked through this stitch hole into the general peritoneal cavity.

This is the only death in this series due to a gross error in operative technique. The proximity of the ureter was fully recognized at the time of the operation but nevertheless it was injured in passing the stitch.

## (XLI.)

Female, Age 29:

Complained of right renal pain. Collargol plate showed dilatation of ureter above brim of pelvis. Operation confirmed the cystoscopic findings and in addition several small cortical abscesses were found in a large, pale kidney. Nephrectomy. Patient left hospital in apparently good condition, but a few days later developed evidences of urinary insufficiency and died of anuria twenty-eight days after operation. It was an error in judgment to have done a nephrectomy in this case.

I suspected a large white kidney as soon as I exposed it, but with its blood supply intact it looked quite different from the similar kidneys seen at autopsy and it was not until I had clamped the renal vessels that I was reasonably certain of the pathology. Previous to the operation this patient had shown a normal phenolphthalein test, and repeated urinary examinations had failed to show albumen although the specific gravity had never been over 1.015. On finding what I suspected as being a large white kidney at operation I should have discarded my laboratory tests and paid attention to the pathology actually before my eyes. Histological examination of the kidney showed chronic diffuse nephritis with local areas of necrosis in the cortex, such as sometimes result from the use of collargol injections.

## (XX.)

Male, Age 48. Ref. by Dr. Bryant:

Appendicitis with abscess of eight days' duration. A small sharply localized abscess was drained with a rubber tube leading into the abscess cavity, the upper part of the tube being surrounded by a gauze coffer dam to protect the general peritoneal cavity. The day following the operation this patient developed symptoms of general peritonitis and an examination of the dressings showed the drainage to have been pulled out of the wound probably while the patient was coming out of the anaesthetic. Autopsy showed that this disarrangement of the tube and gauze had allowed the contents of the abscess cavity to drain directly into the peritoneal cavity.

This patient was watched out of the ether by a very careful pupil nurse, and I have never been able to determine just how or when the accident occurred.

## (XXII.)

Male. Ref. by Dr. Crounse:

Suprapubic prostatectomy. During what appeared to be an uneventful convalescence from the operation this patient developed a virulent pharyngeal diphtheria and died apparently of the diphtheria in spite of the early and vigorous use of anti-toxine.

I know of no way to have foreseen this rare accident.

## (XXVII.)

Female, Age 43. Ref. by Dr. McElroy:

Old pelvic abscess with fistula into sigmoid. Abscess drained through a median suprapubic incision. Convalescence was uneventful until the sixth day when the gauze packing and rubber tubes were removed and a single rubber tube inserted. A few hours later an S. S. enema was ordered by an interne who was temporarily substituting on this service and who was entirely unfamiliar with the patient's condition. This enema was immediately followed by agonizing pain, profound collapse, general peritonitis and death.

Death in this case is entirely attributed to the enema.

## (XXX.)

Female, Age 33. Ref. by Drs. Sterns and Kurth:

Caesarean section (Parro operation). Uneventful convalescence until two days after operation, when patient was found out of bed and walking around. After this exertion the patient began to fail rapidly and died ten hours later. No autopsy permitted. No evidence of secondary hemorrhage or infection. Cause of death probably exhaustion and shock resulting in part at least from the physical exertion incident to her getting out of bed.

## (XXXIX.)

Female, Age 40. Ref. by Dr. R. M. Collie:

Double gonorrheal pyelitis. Pelviotomy for drainage and irrigation.

The operation on the left kidney was exceedingly simple and was entirely completed inside of twenty minutes, but when I was ready to begin the right side the anaesthetist reported a pulse of 140. I therefore decided to postpone the operation on the right side. Three hours after the operation the pulse was 104 and of fair quality, but during the night following the operation the patient died suddenly.

Autopsy—Upper half of abdominal cavity contained blood clot extending entirely across abdomen and lying above transverse colon. Volume of clot about eight hundred centimeters; a few centimeters of free blood in pelvis. Clot was free except where it was adherent to the external surface of spleen at a point where the capsule of the spleen had been torn away over an area about 3 c.m. in diameter, which area had been previously adherent at lower edge of diaphragm.

The hemorrhage undoubtedly came from the torn spleen.

There was no communication between abdominal cavity and the left kidney operative field so that I had no means of even suspecting a torn spleen.

I know of no way to have avoided this very unusual accident, which, as far as I can ascertain, is unique in renal surgery.

In conclusion I would emphasize the fact that while technical skill is of great importance in surgery the more important factors controlling surgical mortality today have for the most part to do with the surgical judgment of the operator. The ability to make a correct diagnosis, a thorough knowledge of the living pathology of the disease processes likely to be encountered and the ability to take full advantage of all natural repair forces which may be brought into play in any given condition are of first importance when it comes to the avoidance of preventable mortality in present day surgical work.

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### Editorial

This blessed medicine being made, Don Quixote resolved to make an immediate experiment of it on himself; and to that purpose he took off a good draught of the overplus, which the pot would not hold: but he had scarce gulped it down, when it set him a-vomiting so violently, that you would have thought he would have cast up his heart, liver and guts; and his reaching and straining put him into such a sweat that he desired to be covered up warm, and left to his repose. With that they left him, and he slept three whole hours; and then waking found himself so wonderfully eased, that he made no question but he had now the right balsam of Fierabrass; and therefore he thought he might safely undertake all the most dangerous adventures in the world, without the least hazard of his person.

Sancho, encouraged by the wonderful effects of the balsam on his master begged that he would be pleased to give him leave to sip up what was left in the pot, which was no small quantity; and the Don having consented, honest Sancho lifted it up with both his hands, and, with a strong faith and a better will, poured every drop down his throat. Now the man's stomach not being so nice as his master's, the drench

did not set him a-vomiting after that manner but caused such a wambling in his stomach, such a bitter loathing, kecking, and reaching, and such grinding pangs, with cold sweats and swoonings, that he verily believed his last hour was come, and in the midst of his agony gave both the balsam and him that made it to the Devil. "Friend," said Don Quixote seeing him in that condition, "I begin to think all this pain befalls thee, only because thou hast not received the order of knighthood; for, it is my opinion, this balsam ought to be used by no man that is not a professed knight." "What a plague did you mean then by letting me drink it?" quoth Sancho. "A murrain on me and all my generation, why did not you tell me this before?" At length the dose began to work to some purpose, and forced its way at both ends so copiously, that both his bed-mat and coverlet were soon made unfit for any further use; and all the while he strained so hard, that not only himself but the standers-by thought he would have died. This dreadful hurricane lasted about two hours, and then, too, instead of finding himself as free from pain as his master, he felt himself as feeble, and so far spent, that he was not able to stand.

*Don Quixote.*

CERVANTES.



**The American  
Therapeutic  
Society.**

In the year 1909 the American Therapeutic Society, at that time nine years old, held its annual meeting at New Haven, upon invitation of Yale University. Nineteen hundred and ten being the triennial year the meeting, as is customary, took place in Washington. The following year the hospitality of the Overseers of Harvard University was accepted and the sessions were held in one of the buildings of the Medical School, while a twelve-month later McGill University and the City of Montreal were hosts. The meeting for 1914 was held in Albany and the members were welcomed on May the 29th in the name of Union University by the Chancellor, Dr. Richmond, in one of his characteristic and happy speeches, which was responded to by Dr. Oliver T. Osborne of New Haven.

The American Therapeutic Society is an organization which, as its name indicates, considers all and everything which relates to the relief of human ills. Its membership is limited to one



hundred, among whom are to be found authors of medical textbooks, surgeons, internists, pathologists, bacteriologists, neurologists, alienists, laryngologists, gynecologists and anesthetists, as well as the common or "garden variety" of doctor; the greater number, however, of its members are teachers in medical schools and men whose researches and writings have given them more than local reputation.

The society has always taken a strong stand against proprietary preparations and one of its by-laws says: "No paper, report, abstract or other communication, either written or verbal, which, directly or indirectly, commends or advocates any secret, patented or trade-marked product or method of treatment, shall be presented to or received by the Society; nor shall any discussion on such product or method be permitted."

The program for the morning of the first day began with an address on the "Use of the High Frequency Current in Tuberculosis," by Dr. Howard Van Rensselaer of Albany, the President, and the entire morning's session, which related to tuberculosis, proved to be of much more than ordinary interest, extending in its scope from what many thought to be the strongest paper of the morning by Dr. Robert T. Morris, on the "Non-operative Treatment of Tuberculous Neck Glands," to "Alleged Tuberculosis Cures," by Dr. Francis P. Morgan. A glance at the program will indicate the range of topics:

Non-Operative Treatment of Tuberculous Neck Glands.—ROBERT T. MORRIS, New York City.

The Acquisition of Tuberculosis.—WILLIAM H. PORTER, New York City.

Therapeutic Value of Tubercle Bacilli Culture Distillate, and the Relation of the Lezithins with the Body of Tubercle Bacilli.—ERNEST ZUEBLIN, Baltimore, Md.

The Local and Topical Application of Tuberculin and Its Derivatives with Especial Reference to the Treatment of Hydrocele and Other Serous Effusions in Lymphadenopathies and Chronic Sinuses.—W. WAYNE BABCOCK, Philadelphia, Pa.

Alleged Tuberculosis Cures Upon the Market.—FRANCIS P. MORGAN, Washington, D. C.

The Tuberculosis Home Hospital Experiment.—P. BRYNBERG PORTER, New York City.

Exhibition of a Case of Tuberculosis, Third Stage, with Healed Lesions of the Tongue and Larynx.—F. M. POTTENGER, Monrovia, Cal.

There was not an uninteresting moment in the entire meeting and it is difficult to individualize, yet among other papers presented, there were several of unusual interest. Dr. Satterthwaite's paper on "Some Phases of Eugenics" provoked much discussion which seemed to indicate that those who had studied the statistics of population and the questions of race were inclined to accept the statements of Goddard, and the stories of the "Jukes" and the "Kallikaks" with a great deal of reservation, if not a certain amount of skepticism. By invitation from the Council, Dr. William Kirk, Jr., of Troy, presented a paper on "Auricular Fibrillation," the extended discussion of which, and the varieties of views expressed fully justifying the invitation. Dr. Theisen's paper on "The Use of Normal Horse Serum for the Prevention of Hemorrhage in Nose and Throat Operations" was looked forward to with a lively interest which was fully rewarded by the results recorded in the article.

On the first day of the meeting the local members entertained the society at luncheon at the Fort Orange Club and on the second day at the University Club. On Friday all the members went by automobile to Saratoga Springs where the State Reservation was visited under the guidance of Dr. Ferris, the Medical Director, who later gave a short address on the history of the springs, illustrated by lantern slides, after which the annual dinner was served at Riley's, Saratoga Lake. On the following evening, President Howard Van Rensselaer, to whom the success of the meeting is wholly due, entertained the society at dinner at the Albany Country Club.

At the conclusion of the scientific program the invitation of Leland Stanford University to meet in San Francisco in 1915 was accepted, and the election of officers for the ensuing year occurred. The retiring president, Dr. Van Rensselaer, was elected as a member of the Council, while Dr. F. M. Pottenger of Los Angeles was made President, and Dr. Robert T. Morris of New York, Dr. Spencer L. Dawes of Albany, and Dr. J. Madison Taylor of Philadelphia Vice-Presidents.

S. L. DAWES.

## Public Health

Edited by Arthur Sautter, M. D., Health Officer.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JUNE, 1914.

*Deaths.*

Consumption. . . . .	33
Typhoid fever . . . . .	0
Scarlet fever . . . . .	0
Measles. . . . .	0
Whooping-cough. . . . .	0
Diphtheria and croup. . . . .	0
Grippe. . . . .	0
Diarrheal diseases . . . . .	4
Pneumonia. . . . .	2
Broncho-pneumonia. . . . .	0
Bright's disease . . . . .	17
Apoplexy. . . . .	10
Cancer. . . . .	11
Accidents and violence. . . . .	5
Deaths under 1 year. . . . .	21
Deaths over 70 years. . . . .	33

Total deaths . . . . .	155
Death rate (100,000 population) . . . . .	18.84
Death rate less non-residents. . . . .	15.68
Death rate (110,000 population) . . . . .	17.14
Death rate less non-residents. . . . .	14.26

Resident      Non-Resident

*Deaths in Institutions.*

Albany Hospital . . . . .	8	13
Child's Hospital . . . . .	0	0
County House . . . . .	8	3
Homeopathic Hospital . . . . .	3	3
Home for the Friendless. . . . .	0	0
Hospital for Incurables. . . . .	0	0
House of Good Shepherd. . . . .	1	0
Little Sisters of the Poor. . . . .	2	0
Public places . . . . .	1	1
St. Margaret's House. . . . .	1	0
St. Peter's Hospital. . . . .	10	1
Austin Maternity Hospital. . . . .	0	0
Albany Hospital, Tuberculosis Pavilion. . . . .	5	2
Labor Pavilion . . . . .	1	1

Totals. . . . .	40	24
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Births. . . . .	169
Still births . . . . .	7
Premature births . . . . .	4

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. . . . .	20
Negative. . . . .	47
Total. . . . .	67
Living cases on record June 1, 1914. . . . .	339
Cases reported:	
By card . . . . .	53
Dead cases by certificate. . . . .	9
	62
Total. . . . .	401
Dead cases previously reported. . . . .	24
Dead cases not previously reported. . . . .	9
Removed. . . . .	4
Died out of town. . . . .	3
	40
Living cases on record July 1, 1914. . . . .	361
Total tuberculosis death certificates filed during June. . . . .	33
Non-resident deaths:	
Albany Hospital . . . . .	2
Albany Hospital Camp. . . . .	3
Labor Pavilion . . . . .	1
	6
City tuberculosis deaths. . . . .	27

## REPORT OF VISITING TUBERCULOSIS NURSE.

Old cases . . . . .	3
New cases assigned. . . . .	43
Returned from hospital. . . . .	16
Total. . . . .	62
Disposition of cases:	
Died. . . . .	9
Sent to hospitals. . . . .	16
To general tuberculosis nurse. . . . .	18
Left town . . . . .	2
Remaining under care. . . . .	17
Total. . . . .	62



Visits made .....	64
Visits made, old cases.....	120
Calls at Board of Health office.....	59
Calls for inspection only.....	0

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	5
Scarlet fever .....	13
Diphtheria and croup.....	3
Chickenpox. . . . .	10
Smallpox. . . . .	0
Measles. . . . .	12
Whooping-cough. . . . .	16
Consumption. . . . .	62
Cerebro-spinal meningitis .....	0

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Total. . . . .	121
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*Contagious Disease in Relation to Public Schools.*

	Reported D. S.F.
Public School No. 4.....	1 ....
Public School No. 8.....	3
Public School No. 14.....	1
Public School No. 18.....	1 5
Vocational School No. 25.....	1 ....

## Number of days quarantine for diphtheria:

Longest..... 30	Shortest..... 11	Average..... 17 $\frac{2}{3}$
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## Number of days quarantine for scarlet fever:

Longest..... 44	Shortest..... 24	Average..... 38 $\frac{1}{5}$
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## Fumigations:

Houses..... 38	Rooms..... 185
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Cases of diphtheria reported.....	3
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Cases of diphtheria in which antitoxin was used.....	3
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Cases in which antitoxin was not used.....	0
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Deaths after use of antitoxin.....	0
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## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive. . . . .	2
Initial negative. . . . .	225
Release positive. . . . .	2
Release negative. . . . .	24
Failed. . . . .	8

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Total. . . . .	261
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*Test of Sputum for Tuberculosis.*

Initial positive. . . . .	20
Initial negative. . . . .	56
Total. . . . .	76

## BUREAU OF MARKETS AND MILK.

Public market inspections.....	26
Market reinspections . . . . .	53
Hide house inspections.....	1
Fish market inspections.....	2
Rendering plant inspections.....	1
Slaughter house inspections.....	1
Milk depots inspected.....	7
Dairies inspected . . . . .	59
Milk houses inspected.....	63
Cows examined . . . . .	940
Cows quarantined . . . . .	5
Cows removed . . . . .	2
Lactometer readings . . . . .	31
Temperature tests . . . . .	31
Temperature tests below standard.....	8
Fat tests . . . . .	5
Sediment tests . . . . .	5

## MISCELLANEOUS.

Work certificates issued to children.....	48
Number of complaints of nuisances.....	73
Privy vaults . . . . .	7
Closets. . . . .	1
Plumbing. . . . .	18
Other miscellaneous complaints.....	47
Number of dead animals removed.....	754
Cases assigned to health physicians.....	79
Calls made . . . . .	164

**Medical News**

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JUNE, 1914.—Number of new cases, 225; classified as follows: Dispensary patients receiving home care, 19; district cases reported by health physicians, 12; charity cases reported by other physicians, 85; moderate income patients, 83; metropolitan patients, 26; old cases still under treatment, 200; total number of cases under nursing

care during month, 425. Classification of diseases for the new cases: Medical, 50; surgical, 13; gynecological, 3; obstetrical under professional care, mothers 45, infants 46; infectious diseases in the medical list, 68. Disposition: Removed to hospitals, 31; deaths, 25; discharged cured, 113; improved, 52; unimproved, 9; number of patients still remaining under care, 195.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 1; nurses in attendance, 1; patients carried over from last month, 1; new patients during month, 1; patients discharged, 2; visits by head obstetrician, 1; by attending obstetrician, 0; by students, 11; by nurses, 11; total number of visits for this department, 23.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,872; for professional supervision of convalescents, 576; total number of visits, 2,448; visits to pay cases, 741; to charity cases, 1,131; unrecorded visits, 576; cases reported to the Guild by 5 health physicians, and 49 other physicians; graduate nurses 7, certified nurses 2 and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 82; new patients, 129; old patients, 327; total number of patients treated during month, 456. Classification of clinics held: Surgical, 13; nose and throat, 4; eye and ear, 8; skin and genito-urinary, 7; medical, 13; lung, 11; dental, 0; nervous, 4; stomach, 3; children, 12; gynecological, 7.

THE WELLCOME HISTORICAL MEDICAL MUSEUM.—The Historical Medical Museum, which was founded by Mr. Henry S. Wellcome in connection with the Seventeenth International Congress of Medicine, was reopened on May 28th as a permanent institution in London. It is now known as the "Wellcome Historical Medical Museum" and is open daily from 10 A. M. to 6 P. M., closing at 1 P. M. on Saturday; entrance 54A, Wigmore Street, Cavendish Square, W. Since closing last October the collections in the museum have been considerably augmented and entirely rearranged. Many objects of importance and interest have been added, which it is hoped will increase the usefulness of the museum to those interested in the history of medicine. Members of the medical and kindred professions are admitted on presenting their visiting cards. Tickets of admission may be obtained by others interested in the history of medicine on application to the curator, accompanied by an introduction from a registered medical practitioner. Ladies will be admitted, *only* if accompanied by a qualified medical man.

FULL PAID PROFESSORS FOR THE JOHNS HOPKINS MEDICAL SCHOOL.—Delivery has been made at Baltimore of securities valued at \$1,500,000 presented by the General Education Board to the Medical School of Johns Hopkins University. This gift is to be known as the William H. Welch Endowment for Clinical Education and Research.

The securities are accepted on behalf of John Hopkins Medical School. The actual transfer of the principal of this fund to Johns

Hopkins University signifies that an important and novel feature relating to the gift will have become an accomplished fact, namely, that the organization of the medical school should be so arranged that the entire income from this fund could be utilized for the support of full-time teaching and research departments of medicine, surgery, and pediatrics, or diseases of children.

The express proposal made by the trustees of the Johns Hopkins University was that in reorganizing these three departments, professors and their assistants should hold their posts on the condition that they become salaried university officials, and that they accept personally no fees whatever for any medical or surgical services which they might render.

The hospital wards and out-patient departments are to be under the control of the university medical or surgical teachers, but over and above their work in the public wards, the teachers are to be free to render any service required in the interest of humanity and science. They are to be free to see any patient they desire to see.

Patients, however, of the usual private patient type, will pay a reasonable fee to the university, rather than to the professors personally. The time and the energy of the professors are to be fully protected, not only because their salary eliminates financial interest on their part, but because they are themselves to become sole judges as to whether or not particular cases shall or shall not command their personal attention.

In order that the time and energy of the professors thus safeguarded might be properly utilized under favorable conditions, the endowment was made large enough to provide adequate salaries to attract the ablest professors and also to provide them with assistants, well-equipped laboratories, books, and other necessary facilities.

Simultaneously with the completion of the reorganization of the Johns Hopkins Medical School in accordance with this new plan, the university trustees have chosen Dr. Theodore C. Janeway, hitherto Professor of Medicine at Columbia University, to become Professor of Medicine of the Johns Hopkins Medical School, the position once held by Sir William Osler.

The chair of surgery at Johns Hopkins, under the full-time arrangement, is to be occupied by Dr. William S. Halsted, most of whose surgical career has been passed in the Johns Hopkins Medical School, where, since the establishment of the Johns Hopkins Hospital, Dr. Halsted has been its surgeon-in-chief and professor of surgery.

The chair of pediatrics will be occupied by Dr. John Howland, who was called a year ago from the professorship of pediatrics at Washington University, St. Louis, and appointed physician in charge of the Harriet Lane Home for Invalid Children, this institution being the pediatric clinic of Johns Hopkins Medical School.

Johns Hopkins will become the first medical school to be placed upon the full-time basis in all departments. A grant of \$750,000 has been made to Washington University, St. Louis, and of \$500,000 to the Medical School of Yale University, upon an understanding that they



also reorganize their work so as to put their clinical teaching upon a full-time basis.

The full-time scheme is a plan to ensure to hospital work and medical teaching the undivided energy of eminent scientists whose efforts might otherwise be distracted by the conflicting demands of private practice and clinical teaching. The full-time scheme is an appeal to the scientific interest and devotion of the clinician, and it is significant that the first three full-time posts created have been filled by men of conspicuous professional standing, all of whom have made great sacrifices in order that they might enjoy ideal conditions for clinical teaching and investigation.

It should become of increasing consequence to the public that the training of those studying to become doctors should be in charge of the most competent men obtainable devoting their entire time to this work. Greatly increased efficiency and thoroughness should result, to the alleviation of suffering and the cure of disease.

**FIFTEENTH NEW YORK STATE CONFERENCE OF CHARITIES AND CORRECTION.**—The Fifteenth New York State Conference of Charities and Correction will be held in Utica, November 17, 18 and 19, 1914. The objects of the conference are to afford an opportunity for those interested in charitable and reform work to confer respecting methods, principles of administration and results accomplished, and to diffuse reliable information concerning humanitarian efforts. The program will be of vital interest.

**OVER 44,000,000 RED CROSS SEALS SOLD IN 1913.**—More than 44,000,000 Red Cross Christmas Seals were sold last December, according to a report issued to-day by The National Association for the Study and Prevention of Tuberculosis, and the American Red Cross. In this way \$440,000 is netted for anti-tuberculosis work in various parts of the United States.

The sale in 1913 is a gain of 4,000,000 seals over 1912, or 10 per cent. It is hoped that this year the 50,000,000 mark will be reached. The seal design for 1914 has been selected and orders for the printing of 100,000,000 seals have been placed. Plans for the organization of a larger sale this year than ever before have been perfected.

New York State led the country last year with a sale of over 10,500,000 seals or one for each man, woman and child in the State. Of this number, more than 6,825,000 were sold outside of New York City by the State Charities Aid Association. Pennsylvania's sale was second largest, aggregating 3,125,000 seals. Ohio came next with a sale of 2,800,000, Wisconsin fourth with 2,700,000, and Illinois, fifth with 2,500,000. Hawaii sold the most seals per capita, the total sale being somewhat over two for each inhabitant. Rhode Island came second with a sale of two per person.

Beginning with a sale of 13,500,000 in 1908, in six seasons the revenue which these little holiday seals have brought to the anti-tuber-

culosis campaign has more than tripled, an aggregate for the period of over \$1,800,000 or 180,000,000 seals.

**TUBERCULOSIS SANATORIUM NOT INJURIOUS TO HEALTH OR PROPERTY.**—Convincing proof that tuberculosis sanatoria or hospitals are not a menace to the health nor a detriment to the property of those living near such institutions is given in a pamphlet issued to-day by The National Association for the Study and Prevention of Tuberculosis. In an extended study of the subject the Association has not been able to find a single instance where a tuberculosis sanatorium has had an injurious effect on the health of anyone living near it, nor where it has had any lasting effect upon property values.

The pamphlet, entitled "The Effect of Tuberculosis Institutions on the Value and Desirability of Surrounding Property," reviews all the studies made on the subject, takes up court decisions bearing on the question, and contributes besides some original investigations of typical hospitals, and the opinions of prominent men, life insurance companies, and others. Nearly 150 different institutions are studied. In all these institutions, not one case could be found where the assertions of opponents to their location, that a tuberculosis sanatorium would spread disease and injure property, could be substantiated. In fact, a number of instances were found where the presence of the sanatorium or hospital promoted outdoor living, tending to lower the death rate, and increased the market for produce and labor, thereby benefiting the community.

Among the most significant opinions expressed are those by five of the largest life insurance companies in the United States. These companies were asked if residence in a tuberculosis sanatorium by a healthy individual was considered an adverse factor in issuing insurance and also if residence in the neighborhood of a sanatorium constituted such an adverse factor. Two of the companies answered the first question in the affirmative and two in the negative, but everyone of them answered that residence near a tuberculosis sanatorium was not considered an adverse factor in issuing life insurance.

Dr. Edward L. Trudeau, who built the first tuberculosis sanatorium in the United States in 1885, says: "When I bought the first land on which the Adirondack Cottage Sanitarium is built, I paid \$25 an acre for it, but the price was then thought absurdly high. My last purchase of five acres cost me \$5,000. To my knowledge, there has never been an employee who came to the sanatorium in sound health who developed tuberculosis while there; and a sanatorium can no more endanger the health of the neighborhood in which it is built, even if the residences are at its very gates, than it could if it were placed on top of a high mountain miles away from habitation."

**UNITED STATES CIVIL SERVICE EXAMINATION.**—The United States Civil Service Commission announces an open competitive examination for expert on sanitation, for both men and women, on August 10, 1914.

From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position in the Children's Bureau Department of Labor, Washington, D. C., at a salary of \$2,800 a year, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of the position will be to act as adviser of the bureau in matters requiring knowledge of hygiene and in cooperation with other experts to conduct investigations into dangerous and injurious occupations, the social factors responsible for high infant mortality, and other matters involving health.

Competitors will not be assembled for examination, but will be rated on the following subjects, which will have the relative weights indicated.

Subjects.	Weights.
1. Education. . . . .	40
2. Experience. . . . .	40
3. Publications or thesis.....	20
<hr/>	
Total. . . . .	100

Graduation from a medical school of recognized standing; and at least three years' specialization in the hygiene and diseases of childhood, or three years' experience in sanitary inspection work, are prerequisites for consideration for this position.

Under the third subject the applicant may submit publications on matters pertaining to hygiene or a thesis on some phase of child hygiene, or both.

Statements as to education and experience are accepted subject to verification.

Applicants must have reached their twenty-fifth but not their fiftieth birthday on the date of the examination.

Under an act of Congress applicants for this examination must have been actually domiciled in the State or Territory in which they reside for at least one year previous to the date of the examination.

This examination is open to all persons who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for Form 304, and special form, stating the title of the examination for which the forms are desired, to the United States Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Post Office, Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Cal.; Customhouse, New York, N. Y.; New Orleans, La., Honolulu, Hawaii; Old Customhouse, St. Louis, Mo.; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R. No application will be accepted unless properly executed, excluding the medical certificate, and filed with the Commission at Washington, with the material required, prior to the hour of closing



business on August 10, 1914. The exact title of the examination as given at the head of this announcement should be stated in the application form.

THE NEW DRESS OF THE ANNALS OF SURGERY.—Owing to the continually increasing amount of material of value, offering for publication in the *Annals of Surgery*, the publishers have found it necessary beginning with the July, 1914, issue to enlarge the size of the page and also to somewhat reduce the size of type in which the original contributions have heretofore been printed. The enlarged size will also enable the publishers to make a better display of the illustrations which are such an important feature of the *Annals* contributions.

Thirty years ago, when the first number of the *Annals of Surgery* appeared, the size and style then shown suited admirably. At that time a single number contained only 96 pages. They have continued to increase each year until now the average number of pages to an issue is 164. Special issues have been published in which the number has been increased to over 300 pages, with the result that the manufacturing of the journal in the former style is not only extremely difficult but the finished product is unwieldy and cannot be read with the ease and comfort which is due a subscriber. In fact, it required constant pressure on the pages to keep them open.

We believe the new form overcomes this inconvenience and enables the publishers to give the reader more material and greater comfort while reading than it could have been possible for them to present in the former size.

The July issue has a choice collection of important articles of exceptional value to the general practitioner as well as the surgeon. It is a splendid example of the way this publication continues to set the pace in surgery.

THE PRESCRIBER.—The July number of *The Prescriber* is devoted to the subject of Radium Therapeutics. Articles on the latest developments of the subject are given, including the following: "The Therapeutics of Radium," by J. R. Riddell, L. R. C. P., L. R. C. S. Ed. (Glasgow); "Radium in Skin Diseases," by W. Knowsley Sibley, M. D. (London); "Recent Developments in Radium Therapy," by W. Hope Fowler, M. B., F. R. C. S. Ed. (Edinburgh); "The Pharmacy of Radium and its Substitutes," by Thos. Stephenson, Ph. C., F. R. S. E. (Examiner to the Pharmaceutical Society).

THE AMERICAN ROENTGEN RAY SOCIETY will meet in Cleveland at the Hotel Hollenden on September 9th to 12th inclusive, 1914. The program promises to be of unusual interest and value, and includes a paper by Dessauer of Frankfort, on the subject of artificial production of gamma rays; Coolidge, the inventor of the Coolidge tube, Schearer and Duanne will also read papers. The subject of deep therapy and the production of the hard rays will be fully presented and discussed. The rest of the



program will be taken up by a large number of papers on general subjects. The medical profession is cordially invited to attend these meetings.

PERSONAL.—Dr. HIRAM B. RIGGS (A. M. C. '11), interne for two years in the Albany Hospital, and also assistant to Dr. Leo H. Neuman, has established himself in practice in Gloversville.

MARRIED.—Dr. GEORGE C. CARTER (A. M. C. '14), and Miss Ethel Van Ness, of Kinderhook, were married at the latter place on June 30, 1914, and will travel in the South where Dr. Carter expects to establish himself in practice.

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## In Memoriam

JOHN L. VAN ALSTYNE, M. D.

Dr. JOHN L. VAN ALSTYNE, a well known surgeon who won distinction in the Civil war, died at his home in Binghamton, N. Y., May 17, 1914. Dr. Van Alstyne is survived by his wife, who was Miss Caroline Shults, of Troy; a son, T. Butler Van Alstyne, and a grandson, of New York; and one daughter, Mrs. Gilbert E. F. Rodgers, of Binghamton. Dr. Van Alstyne was born in Richmondville, Schoharie county, October 8, 1840, the youngest of six children of Dr. Thomas B. and Eliza Gile Van Alstyne. He acquired his early education in the common and academic schools, after which he read medicine with his brother, Dr. Sylvester Van Alstyne, and later with Dr. John Swinburne of Albany. He graduated from the Albany Medical College in 1862. The following January Dr. Van Alstyne was commissioned by Governor Seymour as assistant surgeon Third New York Cavalry, and served until September, 1864, when he was promoted regimental surgeon with the rank of major. Dr. Van Alstyne, by seniority rank, served as surgeon of the First Brigade, Kautz's Division of Cavalry, and from January 1, 1865, to the final muster out he was surgeon-in-chief of the second sub-district of East Virginia. Returning from the service to Schoharie county, Dr. Van Alstyne practiced medicine in Richmondville until 1873, when he removed to Binghamton, where he achieved large success. Under General Harrison's administration, in 1889, Dr. Van Alstyne was appointed a member of the Broome county board of medical pension examiners, and served in that capacity about two and one-half years.

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ELMER E. FINCH, M. D.

Dr. ELMER E. FINCH, a graduate of the Albany Medical College in the class of 1886, died at his residence in Schodack Center, N. Y., July 18, 1914.

Dr. Finch was born in Coxsackie and was forty-eight years of age. At one time his parents resided in Albany, and he was graduated from the Albany public schools. After graduation he practised in New York City for a year, later in Watervliet, N. Y., and finally settled

in Schodack Center where he spent the greater part of his professional life. He there had the reputation of a high sense of devotion to duty, and was universally respected for his attention to patients and his interest in public affairs. He was a member of the Medical Society of the State of New York and of the Medical Society of the County of Albany, and was active in fraternal and religious circles. Dr. Finch married Miss Jessie P. Traver, of Schodack Center, in 1893 and she survives.

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## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*Blood Pressure, From the Clinical Standpoint.* By FRANCIS ASHLEY FAUGHT, M. D., of the Medico-Chirurgical College, Philadelphia. Octavo of 281 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Price \$3 net.

It is unfortunate that a book which is designed to instruct the experienced as well as the beginner in so comparatively recent a development of clinical medicine should devote so little space to description of the several different kinds of instruments which are in common use for the determination of blood-pressure and for instructions which might enable the average practitioner to obtain the greatest value in their operation.

The causation of variation in blood-pressure as well as its relation to disease conditions are considered at some length and evidences very careful study while hypotension and hypertension have each a chapter by themselves. Climatologic and racial influence are discussed in a disappointingly short chapter of but five pages of very coarse print. The author points out the fallacy of our former views in regard to the influence of various drugs on tension and presents the modern view that high altitudes have but little if any effect on blood-pressure.

While it is unfortunate that the book contains much less than its size would indicate, due in part to the thickness of the paper and the size of the type, it does contain much that is of value to the general practitioner.

S. L. D.

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*The Narcotic Drug Diseases and Allied Ailments. Pathology, Pathogenesis and Treatment.* By GEORGE E. PETTEY, M. D. Illustrated. Philadelphia: F. A. Davis Company. 1913. Price \$5 net.

Dr. Pettey has given a large part of his professional life to the study and the treatment of the drug habit, and, as we all know with a very great success, his views on the subject will therefore command an interest not always accorded those who deal with that subject.

At the very outset Dr. Pettey makes the novel statement, one which it is to be feared will not be generally accepted, that "this volume treats narcotic addiction as a disease, a toxemia, of drug, auto- and

intestinal origin, *the management and treatment of which belong to the field of internal medicine and not to neurology.*" This statement shows quite conclusively that the writer fails to realize how large a factor his own personality has been in the success which has attended his efforts and at the same time falls into the common error of attributing his cure to the drug administered without attaching sufficient importance to attending and surrounding factors.

However much we may disagree with Dr. Pettey's theory or rather with his reasons for his own success, we must welcome his book and most cheerfully admit that it can not help but be of great value to any one but the fakir and the charlatan who unfortunately make up a majority of those who treat drug addictions.

S. L. D.

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*International Clinics.* A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, etc., and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world, edited by HENRY W. KATTELL, A. M., M. D., Philadelphia. Volume 3, twenty-third series, 1913. J. B. Lippincott Company. The price of this book is \$2.

Among the many and varied monographs which this interesting volume contains, we would mention particularly the one on "The Prophylaxis and Treatment of Malarial Infections" by Charles F. Craig, an article that will commend itself to all who are interested in this economic question. The subject of Prophylaxis is treated in the following sub-heads:

1. Destruction of the Mosquito.
2. Protection from the Bites of the Mosquito.
3. Isolation of Infected Individuals.
4. The Prophylactic Use of Quinine.
5. Prepared Treatment of Carriers of the Infections.
6. Education of the Public.

Under the second division of Treatment, the subject is dealt with as follows:

1. Effect of Quinine upon the Malarial Plasmodia.
2. Choice of Preparations.
3. Time of Administration and Dose.
4. Method of Administration.
5. Contra Inductions to the Use of Quinine.
6. Substitutes for Quinine.
7. Treatment of Special Symptoms.

A subject somewhat akin to the preceding from the standpoint of tropical, is an article entitled, "Remarks on the Clinical Study of Uncinariasis, and Its Treatment" by Bailey K. Ashford. The author recapitulates his experiences with the disease as found in Porto Rico. After describing in detail the various clinical aspects of the disease,

he sums up the medical treatment by narrowing the field of therapeutics to Thymol and Betanaphthol. Of these two, he claims the former is infinitely superior.

"Beagonie Treatment of Obesity and Cardiopathy" by Francis Howard Humphreys, an interesting essay on this ever present condition which is now being recognized as a disease, leading in some cases to serious and often fatal complications. He defines obesity as "the state of disordered metabolism, accompanied by superfluous adipose deposits, and various functional disorders." He then proceeds with a description of the causes and pathology and symptoms thereof. Treatment is divided under the headings

1. Massage
2. Baths
3. Diet

But the main reliance is based upon electric current produced by specially constructed induction coil. The illustrations and descriptions of the details are given in full and from the use of which, the author claims to have obtained excellent results.

H. D. C.

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*International Clinics.* A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, etc., and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world, edited by HENRY W. KATTELL, A. M., M. D., Philadelphia. Volume 4, twenty-third series. The price of this book is \$2. J. B. Lippincott Company.

This volume contains many instructive and interesting articles along the usual paths of medicine and surgery; it also contains several interesting articles trenching on the border land subjects of psychology and mental therapeutics. Among these, we would especially mention the rather fanciful production of Meyer Solomon, entitled "Interpretation of Dreams, Based on Various Motives." Those who love to theorize upon their nocturnal experiences will here find ample food for thought. "Psyche in Diagnosis" by Robert T. Edes, M. D., deals with an interesting phase upon the trend of the times.

"Neurotic Discomfort and the Law of Avalanche" by James G. Walsh. A very readable article from the pen of this versatile author deals with his pet subject, as we would expect, "The History of Medicine" with a special reference to that portion thereof which pertains to mental healing by the use of "irregular" methods.

A special credit should be given to the publishers for the beautiful colored plates which this volume contains illustrating in the natural tints, the various and pathological conditions described in the text. The plates, diagrams, and figures in black and white are numerous and worthy of commendation.

H. D. C.



*A Compend of Diseases of the Skin.* By JAY F. SCHAMBERG, A. B., M. D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine; Fellow of the College of Physicians of Philadelphia; Member of the American Dermatological Association. Fifth edition revised and enlarged with 112 illustrations. P. Blakiston's Son and Co., Philadelphia.

To the first edition has been added the newer views on syphilis, vaccine treatment and the use of carbon dioxide snow. Dühring's classification has been followed in the text. The discussion of the various diseases is necessarily limited by the size of the book yet a surprisingly large amount of information has been introduced. The differential diagnosis is especially to be commended.

H. W. C.

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*Diet and Hygiene in Diseases of the Skin.* By L. DUNCAN BULKLEY, A. M., M. D., Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital; Consulting Dermatologist to Randall's Island Hospital, to the Hospital for Ruptured and Crippled, and to the Manhattan Eye and Ear Hospital, etc. New York, Paul B. Hoeber, 69 East 59th St.

This book is made up of five lectures on diet and one on hygiene in relation to the treatment of skin diseases. The lectures contain a great deal of information, particularly on the subject of diet. The author's extensive experience in dermatological practice is presented in a most convincing way to show that in many instances the correction of dietary errors alone is sufficient to relieve some of the forms of skin disease, especially eczema, acne and psoriasis. The suggestions regarding the administration of milk and the rice diet are worthy of special mention. In the appendix lists of special diets are given.

H. W. C.

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## PSYCHIATRY

Edited by G. Alder Blumer, M. D.

*The Presence of Spirochaete in Dementia Paralytica.* (*Vorkommen von Spirochäten bei Dementia paralytica progressiva*).

HANS GEBER, LADISLAUS and KORIOLAN TATAR. *Wiener klinische Wochenschrift*, Jahrg. XXVI., Nr. 38, September 18, 1913.

Noguchi found the spirochaete in twenty per cent of general paralytics, and later announced that he had found the spirochaete in the brain substance of forty-eight patients in a total of two hundred examined. Other observers have confirmed his researches, and at the meeting of the Berlin Psychiatric Society in June, 1913, Forster and Tomaszewski reported a segregation of the spirochaete in living patients by brain puncture, with which they were able to produce syphilitic orchitis also rich in this organism. There is now no doubt that the spirochaete

accumulate in certain foci as is often determined by the rapid progress of the disease, its sudden invasion and conditions of active delirium. Although this discovery of Noguchi need not at once change our knowledge of the pathogenesis of the disease nor of the course of the pathological process, it must be regarded as important as some three years ago Strassmann first demonstrated the spirochaete in cerebral lues. Our present knowledge however is advanced in that the presence of the spirochaete is shown in the cerebral structure independently of the blood vessels.

The investigations carried on by the writers of this paper included the examination of fifteen brains, of which fourteen had been fixed in ten per cent formalin solution for periods varying from a month to two years, and in one case the examination was made immediately following the autopsy. Sections were taken from the frontal lobes, the central convolutions, the temporal and occipital lobes, and in some instances from the hemispheres of the cerebellum. In only one of these cases was the spirochaete found, this patient being a case of the demented form of general paralysis. The organism was found in this case in the cortical structures, far removed from the blood vessels and in the vicinity of the ganglionic cells. The writers have also examined several general paralytics during life by brain puncture, obtaining fluid from the lateral ventricles, but the result was entirely negative. One of these patients was in an acute stage of the disease, two were examined during exacerbations, and four were of the progressive demented form. No unfavorable effects were observed from this operation. In one case there was a slight elevation of temperature three days after the puncture. In another case there was transient paresis for three or four hours of the limbs of the right side and motor aphasia which lasted from twelve to fifteen hours.

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*Concerning the Frequency of the Wassermann Reaction in the Cerebrospinal Fluid in General Paresis. (Zur Frage der Häufigkeit der Wassermann-Reaktion im Liquor cerebrospinalis bei Paralyse.)*

PAUL KIRCHBERG. *Archiv für Psychiatrie und Nervenkrankheiten*, 50. Band, 3. Heft, 1913.

The occurrence of the Wassermann reaction in the cerebrospinal fluid has been variously estimated as in from ninety-five per cent by some observers to as low as fifty per cent by others. Kirchberg has examined one hundred cases of general paresis in respect of the occurrence of the reaction in the cerebrospinal fluid and in the blood, making the examinations with one, two and finally four cubic centimeters of the fluid examined. Of these cases seventy-eight per cent resulted positively in the response from the cerebrospinal fluid, and ninety-eight per cent gave a positive reaction with the blood; that is to say, while the negative reaction in the fluid was twenty-two per cent, it was only seven per cent in the blood.

In a group of twenty-two cases of tabo-paresis, eleven resulted negatively upon examination of the cerebrospinal fluid, which is of significance, as other authorities have observed the failure of the reaction in cases of tabes, so that a negative Wassermann may be of some use in differentiating tabes and general paralysis.

It may be concluded from this that a strong reaction in a case of tabes speaks for a combination of this disease with general paralysis. The reaction in the blood appears to be much more frequent. It appears from this that the positive reaction in the cerebrospinal fluid is of value in the diagnosis, but a negative result does not eliminate the probability of the presence of general paresis.

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## LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY

Edited by Clement F. Theisen, M. D.

### *Brain Abscess of Otitic Origin.*

EDWARD BRADFORD DENCH. *Transactions of the American Laryngological, Rhinological and Otological Society*, 1912.

The writer's paper is based upon twenty-one cases of brain abscess of otitic origin, and is a preliminary contribution.

Of the twenty-one cases, seventeen were instances of temperosphenoidal abscess, and four were cases of cerebellar abscess. This experience controverts the statement made by certain observers, that cerebellar abscess of otitic origin, is of more frequent occurrence than temperosphenoidal abscess from the same cause. Of the tempero-sphenoidal abscesses, seven were on the right side, and ten upon the left side. Of the cerebellar abscesses, two were upon the right side and two upon the left side.

Of the tempero-sphenoidal abscesses, in nine cases infection occurred through the tympano-mastoid roof. In one case the abscess was found in the Island of Reil, and so must have been of metastatic origin. In another instance, an abscess was found in the temporo-sphenoidal lobe following a decompression operation, at which time the tempero-sphenoidal lobe was explored for a possible abscess. As the purulent discharge from the ear still continued, in this case, it is possible that the subsequent abscess developed as the result of infection in the brain tissue, which had been broken down at the previous exploratory operation. In another case the abscess in the tempero-sphenoidal lobe was probably due to the breaking down of a gummatous deposit.

Of the cerebellar abscesses, in three cases infection occurred through the lateral sinus. In the fourth case of cerebellar abscess, there was a complicating neoplasm of the auditory nerve trunk, the cochlea being completely destroyed by the neoplastic tissue (fibro-sarcomatous in nature).

The writer speaks of the frequency with which purulent involvement of the brain follows acute or suppurative otitis media respectively.

In four of the twenty-one cases, the duration of the suppuration was unknown. In seven there was a history of chronic suppuration, while in ten intracranial involvement followed an acute suppuration of the middle ear. In two of the acute cases there was a period of latency,—in one case extending over ten years, and in a second case, extending over a period of one month.

The relative frequency with which brain abscess followed otitis media in the writer's series of cases, is worthy of note. In four cases, following acute otitis media, the mastoid antrum was exceedingly small and the middle cranial fossa very low. This anatomical fact may explain the development of a suppurative focus within the temporo-sphenoidal lobe following acute otitis in these particular cases.

The symptomatology of the reported cases is interesting. Some of the cases entered the hospital in a comatose condition, so that a detailed record of symptoms was impossible.

The most constant symptom was headache. This was noted in most of the cases where the patients were not comatose. It was markedly absent in two cases, one of fibro-sarcoma of the auditory nerve trunk, and in another in which the brain abscess was undoubtedly due to the breaking down of the gummatous deposit.

Vomiting was present in some of the cases, but in many it was not a prominent symptom until a late stage.

The mental condition of the patients varied considerably. In four coma was the most prominent symptom. In nine cases the patients were exceedingly dull mentally, although they could be easily aroused, and were then able to answer questions intelligently. In two cases the sensorium was normal. In one case the patient was in a state of extreme nervous excitability. In three cases the patients were very lachrymose, their condition bordering on melancholia. In all these cases, the abscess was located in the left cerebral lobe, two being in the temporo-sphenoidal lobe, and one in the inferior temporal convolution and in the Island of Reil. In one of the patients, in whom the sensorium is accounted as "normal," the patient came from an institution for the feeble-minded,—consequently, observations as to the exact mentality of this patient, are of but little value. In two of the cases the exact mental condition is not noted.

Muscular paralyses were present in only two of the writer's cases, *i. e.*, in one case of abscess of the right temporo-sphenoidal lobe, in which there was some paralysis of the left upper extremity, and in a second case, one of cerebellar abscess in which there was paralysis of the external rectus on the affected side.

Convulsive seizures occurred in only one case.

The condition of the optic disc is also worthy of note. Out of the twenty-one cases, in six the condition of the optic disc is not given. In three there was choked disc, in three the optic disc was congested, and in nine cases the ophthalmoscopic examination was negative.



Three cases of temporo-sphenoidal abscess showed the symptom of aphasia. Five cases of left-sided temporo-sphenoidal abscess, showed no aphasia. It should be stated, however, that in two of these five, the patients spoke no English,—consequently, an exact determination of aphasia would have been difficult. In each of these two cases, the abscess was found at the time of operation, and no careful test has been made for this symptom prior to operative interference. In seven cases of temporo-sphenoidal abscess, occurring upon the right side, there was no aphasia, as would be expected. One of these patients, however, was left-handed, and presented the symptom of agraphia, the agraphia, in this instance, taking the peculiar form of mirror-writing.

The results of operative interference were as follows: Of the seventeen temporo-sphenoidal abscesses, ten died and seven were cured, of the cerebellar abscesses three died and one was cured. The cause of death in the fatal cases was purulent meningitis, except in two cases. One of these died of pneumonia, while the second was complicated by a neoplasm involving the auditory nerve trunk.

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*Papillomata of the Larynx in Children. (Papillome im Larynx der Kinder.)*

CHIARI. *Wiener medicinische Wochenschrift*, No. 39, 1913.

The writer's paper is largely statistical, and some interesting facts in regard to the frequency of laryngeal papillomata in children, and the results of different methods of treatment are brought out.

intra-laryngeally only, with thirty cures, three partial cures and five

V. Bruns, up to 1878, had collected forty cases that had been treated recurrences, while in two cases the result of the treatment was not known.

After the introduction of cocaine, the endo-laryngeal operations for the removal of papillomata, increased very greatly.

Between 1879 and 1896, Rosenberg gives the records of forty-eight cases, the majority of the operations having been performed under cocaine anesthesia. Thirty-one cases were cured, and six improved. There were seven doubtful results, one recurrence and three deaths.

Of twenty-three cases from Chiari's clinic in Vienna, tracheotomy was performed in ten with one death, two recurrences and six cures, after endo-laryngeal methods employed later. One case was not cured.

Thyrotomy should only be performed in the worst cases.

Rosenberg arrived at the following conclusions in this respect: The operation is particularly dangerous during the first four years of life, over 13 per cent of the operations resulting fatally; hoarseness, because of injury to the vocal cords, frequently follows; permanent strictures may result and recurrences after thyrotomy are frequent. He quotes Austin, who performed thyrotomy seventeen times on the same child for recurring papillomata.

The author comes to the following conclusions: Intralaryngeal opera-

tions under cocaine anesthesia, should be first attempted, particularly in older children. If the indirect methods fail, direct laryngoscopy under general anesthesia should be employed. When extreme difficulty in breathing develops, tracheotomy should be performed, and later with the canula in place, operations may be performed by either the direct or indirect methods.

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*The Influence of Nasal Resonance on the Singing Voice. (Ueber den Einfluss der Nasenresonanz auf die Singstimme.)*

RETHI. *Wiener Medicinische Wochenschrift. September 7, 1912.*

The nose, pharynx, epiglottis and ventricular bands have a great effect on the voice. If all these parts, which are situated above the vocal cords, are cut out of a larynx that has been removed, and the cords are then brought together and air forced through the air passages from below under proper pressure, a certain tone is produced which varies according to the amount of the pressure.

The strength and quality of the voice depends upon the space situated above the vocal cords, i.e., the upper larynx, pharynx, mouth, naso-pharynx and nose.

In nearly every person this space is fashioned differently, particularly in respect to its size and structure. The slightest variation affects the timbre of the voice. This is even true in twins who apparently have nasal organs and throats exactly alike.

Enlarged tonsils and lingual tonsils cause decided changes in the voice which are noticeable even to the badly educated ear. Such individuals in speaking, pronounce M. as B. and N. as T. The same changes in the voice are produced by adenoids also. In these cases the development of the bones of the face is interfered with by the nasal obstruction, the nose and naso-pharynx being small and narrow, the palate highly arched, etc. If these abnormal conditions are not corrected until late in life, the voice may not be favorably influenced.

Of the greatest importance is any form of nasal obstruction, such as deviations of the septum, polypi or hypertrophies of the mucous membrane.

It is self-evident that the quality of tone and resonance of the voice is to a great extent dependent on the nasal chambers, and particularly the size of the resonance chambers. We have only to think of musical instruments with resonance chambers, such as the 'cello, violin and the piano. The bigger the resonance chamber the fuller the tone.

Singers whose noses are not clear always endeavor to improve the strength and carrying qualities of the larynx by forcing the voice. This does not make the voice sound stronger however, but rather more muffled. It does not sound stronger in a large hall and in a small hall it sounds too sharp. Singers who have to force their voices in this way, frequently suffer a complete loss of voice and secondary inflammatory changes in the larynx. These laryngeal changes may of course be primary and are also the result of poor methods of singing.

If in such cases in which such conditions are not caused by primary trouble in the larynx itself, but the result of faulty methods or pathological conditions in the nose, naso-pharynx or pharynx, local treatment is used, the singer is not only not benefited but may be injured.

On the other hand, proper operative procedures for nasal obstruction or abnormal conditions of the naso-pharynx and pharynx, are followed by the most satisfactory results. It is a common experience that singers who before such operations, had to force the voice in order to produce high tones, were able not only to reach their upper tones without difficulty but increased their register.

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*Use of Normal Horse-Serum as a Means of Controlling Hemorrhage in Oto-Laryngology.*

MAX A. GOLDSTEIN. *Laryngoscope*, October, 1913.

Technically the general surgeon has a comparatively easy task in the control of hemorrhage when the bleeding vessel can be readily located and ligated; the nose and throat surgeon encounters many handicaps in the control of hemorrhage because it is difficult to locate the bleeding vessel as in the deeper curettement of the ethmoid cells or sphenoid cavity where strips of gauze are packed more or less blindly into the bleeding cavity; it is at times inaccessible, in the mechanical control of hemorrhage in the vault of the pharynx following adenectomy where the complete tamponade of the post-nasal spaces and the anterior nares is at best a somewhat clumsy procedure; in the radical tonsillectomy where the bleeding is frequently from many smaller capillaries in the wounded faucial pillars rather than from an important vessel, and where chemical styptics, specially prepared tampons, mechanical tonsil hemostats, or even ligature of the faucial pillars must be undertaken.

It is important before operations to give the patient preliminary attention as in any other surgical case.

Where the surgeon obtains previous knowledge of the hemorrhagic or hemophilic diathesis in a case to be operated, constitutional measures are also undertaken to guard against any possibility of serious bleeding following operation.

It has been definitely recognized that the coagulation-principle of the blood is dependent on the action of thrombin, the so-called fibrin ferment, on fibrinogen, one of the normal elements of the blood, in the presence of calcium. This has led to the theory that delayed coagulability or absence of coagulability might be due to the lack of sufficient calcium in the blood, and prompted the method of feeding calcium salts to the patient in whom hemorrhage was feared or in whom hemorrhage had ensued. This theory has been abandoned, and the exhibition of calcium salts is no longer the essential factor that it was ten years ago.

The following details were carried out by the writer in each case:

Within twenty-four hours previous to the time of operation (1) a

physical examination of the patient was made; (2) the systolic and diastolic blood-pressure test recorded; (3) the hemoglobin per cent noted; (4) the coagulation time ascertained of blood obtained from the lobe of the ear; (5) where the time-limit of the coagulation exceeded seven minutes a hyperdermic injection of 10 c.c.m. of normal, sterile horse-serum was given; (6) in each case where the serum injection was made the coagulability of the blood was again tested just prior to the time of operation.

The author's paper is based on fifty cases operated on under general and local anesthesia—the time of the coagulation of the blood being taken before and after the injections of normal horse-serum. These injections were given from twelve to twenty-four hours before operations. The operations were performed under local anesthesia, so far as possible, no adrenalin nor infiltration anesthesia being used.

In practically every case the coagulation time was reduced after injection of the serum from one, to two and one-half, and even three minutes.

### *Labyrinth Operations for Severe Labyrinthine Vertigo.*

MATTE. *Archiv für Ohrenheilkunde*, 1912.

The author's conclusions, based on five labyrinth operations, are as follows: Vertigo, caused by labyrinth disturbances alone, may be greatly relieved, or as in one of his reported cases, completely cured by operation.

He believes, that in the cases in which subjective noises still exist after the operation, they are caused by degeneration of nerves, particularly of the acusticus root. They are the extra labyrinthine noises, and are not dependent on the old idea of labyrinth pressure. The author's indications for opening the non-suppurating labyrinth, are unendurable subjective noises and extreme vertigo.

## MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

### *Acetyl-Salicylic Acid and Aspirin.*

E. MERCK'S *Annual Report, Darmstadt*, 1913, pp. 73, 107.

An exhaustive and complete review of what has been published during the past year on acetyl-salicylic acid and on "aspirin" is to be found in this report. In comparing the therapeutic action of these drugs with sodium salicylate in rheumatism, Roch concluded that they could not be considered as mere substitutes for the latter as they exert a decided antipyretic power, more marked and rapid. He found that while it required from two to three grams to bring about even an uncertain fall in the temperature, with one-half to one gram of the acetyl preparation an immediate result, frequently lasting several hours was produced and with much more marked analgesic effects. In articular rheumatism he much prefers sodium salicylate.



The greater solubility of sodium salicylate makes it more desirable not only by the mouth but by the rectum. This drawback may however be overcome by the use of a soluble salt of aspirin. Lewin has made several communications and numerous other writers have contributed on the calcium salt of this drug, called "kalmopyrin." They have found it useful in the same conditions as those for which they have used aspirin and with equally good effect. Lewin is of the opinion that its chief value lies in its greater solubility, its suitability for children, and the presence of the calcium when used for coryza and in all conditions accompanied by exudations. It is a white powder, readily soluble in water, consisting of one part calcium and nine parts aspirin. Its solutions, however soon decompose, liberating acetic acid. Görges has investigated this so-called "soluble aspirin" most extensively and notes, in addition to advantages already mentioned, its neutral reaction, that it does not produce renal inflammation on account of the calcium, its being tasteless and in not occasioning gastric and esophageal irritation.

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*Local Treatment of Vincent's Angina with Salvarsan.*

J. D. ROLLESTON. *The Practitioner*, December, 1913. p. 847.

The author reports a case admitted to the hospital certified to as diphtheria but cultures from whose throat showed no diphtheria bacilli. A diagnosis of Vincent's angina was made and the case was treated for two weeks with applications of methylene blue, potassium chlorate and iodine without relief. At this time all other treatment was abandoned and a throat swab moistened in glycerine and dipped in salvarsan powder was applied to the affected area. The symptoms began to abate within a few hours and four applications in all were made in eight days, the improvement continuing uninterruptedly until he was discharged, cured, thirteen days after the first application of salvarsan. There was no history or evidence of syphilis and Wasserman's reaction was negative.

There are but ten other recorded cases of the treatment of Vincent's angina with local applications of salvarsan, usually after failure of other methods and in all but one case the lesions healed remarkably quickly and no toxic symptoms occurred in any case. The methods of application have been similar in all the cases and the author states that they may be made several times daily. He notes that salvarsan has been used intravenously in this disease but states that those who have tried both methods find the direct application much more efficacious.

The treatment by salvarsan may be described as simple, safe and sure and some authorities find it expensive but the writer does not agree with the latter statement, the case he reports having required but little more than "two shillings' worth of the drug."

Deslaux of Brussels urges that in cases in which anemia is pronounced, intravenous injection should be associated with local applications of salvarsan. It is noted that salvarsan has been used topically in other

localizations of Vincent's organisms, as well as in other conditions unconnected with syphilis, such as soft chancre and varicose ulcers.

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*Quantitative Studies on the Gastro-Intestinal Absorption of Drugs. Third Paper; the Absorption of Alcohol.*

HANZLIK and COLLINS. *Journal of Pharmacology and Experimental Therapeutics*, November, 1913. p. 185.

In previous studies involving the absorption of phenol and of sodium iodide it was observed that there was an inhibition of the absorption produced by the substance itself, that is, the absorption goes on rapidly for a time, is then practically arrested and does not complete itself, leaving a considerable portion, about a third of the substance unabsorbed, and this same phenomenon is observed as to ethyl alcohol. The experiments were performed with the ligated intestinal loops of anesthetized cats and dogs and ten cubic centimeters of a ten per cent solution of alcohol per kilo of animal were used. The unabsorbed alcohol was determined by the distillation process described in the *Journal of Biological Chemistry*, 1912, xi, 61, and all results given in the article are given in percentages of absolute alcohol. Many animals were used and various substances were introduced into the intestinal loop at the same time in order to test their influence upon the absorption of the alcohol. A brief summary of the lengthy protocol is to the effect that:—The quantitative absorption of alcohol from the gastro-intestinal tracts of cats and dogs is practically identical; the absorption from the stomach and small intestine differs but little, but from the colon it is about one-fifth higher. The extent of the absorbing area does not markedly influence the intestinal absorption and while the concentration of the alcohol makes no great difference, a ten per cent solution is absorbed somewhat better than five, fifty and ninety-five per cent solutions. The absorption is practically arrested at the end of a half an hour but this inhibition is of a local nature, since the pressure of alcohol in one loop does not inhibit the absorption from other loops. Intravenous injection of alcohol inhibits its absorption from the intestine and this is not due to re-excretion. Wide variations of the systemic blood pressure seem to have no practical effect on the percentage absorption, but changes in local circulation influence intestinal absorption. Any injury to the mucosa lessens absorption and the inhibition of absorption referred to before is due to a slowing of the circulation in the intestine, no such change being demonstrable after the local application of alcohol. Lipoid substances as olive oil, cholesterin, lecithin, soap, bile salts, and bile decreases the absorption of alcohol. In the intestine the absorption of alcohol after death is (average) seventeen and six-tenths per cent; in the stomach twenty-seven and one-tenth. The arrest is due to a retention or binding of a certain quantity of alcohol in the intestinal tissue, and local narcosis of the intestine and concentration of alcohol are not concerned in the inhibition of absorption.

*The Principles of Serum and Vaccine Therapy.*

DAVID N. NABARRO, M. D. *The Practitioner*, December, 1913. p. 782.

Bacterial vaccines are being used and misused to such an extent at the present time that a few simple and common-sense rules are not amiss. After discussing the theory of vaccine therapy and giving practical illustrations by means of case histories the author makes the following suggestions.

The correct vaccine must first be selected, the kind being determined by bacteriological diagnosis; in the case of urines, periodical examinations should be made in order to determine if the original organism has not disappeared and a new one appeared. Associated conditions, such as the condition of the bowels, the general hygiene, good food, et cetera as adjuncts to the vaccine should be kept in mind. Local conditions must be treated, surgically if necessary. Collections of pus should be evacuated, otherwise these may prevent the advent to the infected area of the anti-bodies formed elsewhere in the body. In case of stone in the kidney, bladder or ureter, the stone must be removed if a beneficial effect is to be desired from the vaccine. The proper dosage and the proper interval must be determined by the reaction produced. The author says that "sensitized vaccines have not been used in his experiments" and that they are not extensively used in England but states that Dr. Gordon of St. Bartholomew's Hospital believes them to be of considerable value in the treatment of acute bacterial infections and that they are of great use for prophylactic purposes in the case of epidemics.

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*Cotton-Seed Extract and Pituitary Extract During Lactation.*

J. A. HENTON WHITE. *The Practitioner*, September, 1913. p. 422.

The gradual recognition on the part of the medical profession as well as a majority of the laity of the superiority of breast-feeding over bottle-feeding, together with the frequent failure on the part of the mother to provide a sufficient supply of milk warrants a careful consideration of any suggested method for increasing the secretion from a reluctant mammary gland.

The author reports a case of triplets, delivered by a midwife. About three weeks after delivery he was called to see the woman whom he found with cracked nipples, a temperature of 104° F. and one reddened, distended and tender breast. Two hundred and twenty-five milligrams of morphia dissolved in one cubic centimeter of pituitary extract were administered hypodermatically and gentle effleurage of the breast ordered. The following morning the temperature was normal but the secretion from the breast was scanty. Lactagol which is an extract of cotton-seed was prescribed together with a generous diet.

The secretion of milk soon increased and the weight of the mother as well as of all three children increased for a period of six months when one of the triplets died from measles. The other children continued to grow and thrive until weaned.

The author has had much good result from the administration of the pituitary extract in threatened mammary abscess, which he thinks is due to the increased lacteal flow which occurs soon after its injection, this increased flow being due to a contraction of the muscular fibers of the duct walls. The use of the cotton-seed extract to increase the flow of milk was suggested by the use of oil cake for cows during lactation.

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*The Effect of Atophan and Novatophan on the Endogenous Uric Acid Secretion in Normal Men.*

HOWARD D. HASKINS. *The Journal of Pharmacology and Experimental Therapeutics*, September, 1913.

Of all the proposed remedies for the treatment of gout the most interesting are, two-phenylquinolin-4-carbolic acid, commonly called atophan, and 6-methyl-2-phenylquinolin-4-carbolic acid ethyl ester, or novatophan. Both of these compounds have been shown by many different investigators to increase the elimination of uric acid, in some instances on a purin free diet, and in a few cases in normal individuals. The experiments of the author were for the purpose of testing the action of these compounds on the endogenous uric acid secretion of a considerable number of healthy persons.

The investigations were carried out with the aid of twenty-one normal men, medical students apparently in good health, and all of whom had been on a purin free diet for one week before either atophan or novatophan had been administered. A table is submitted which shows in detail the amount of endogenous uric acid per day, the amount excreted on the drug day and the volume of urine. In sixteen of the cases there was over two hundred milligrams increase of uric acid excreted under the influence of the drug, four show some increase and one a slight decrease, this last mentioned being attributed to the abnormally small volume of urine, four hundred and sixty cubic centimeters (about one pint). The largest increase in any one case was six hundred and ninety milligrams.

The amount of the drug used was invariably five-tenths gram whether atophan or novatophan and it was usually given four times each day although in a few instances it was given five times. A comparison of the results would suggest that atophan is somewhat the more efficient of the two drugs.

With the idea in mind that the action of atophan might consist merely in stimulating the kidney to abstract from the blood a greater quantity of uric acid than it otherwise would, observations were extended so that the excretion for a period after taking the drug could be compared with that for a period before taking and it was found that the excretion in the period following the taking of the drug was at a distinctly lower level than that during the period of normal endogenous excretion.

The author agrees that it is unsafe to draw conclusions from so few experiments but concludes, nevertheless that the results point strongly toward the possibility of both drugs draining the uric acid out of the blood, leaving its uric acid content subnormal.



# ALBANY MEDICAL ANNALS

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## Original Communications

### THE PRESIDENT'S ADDRESS

TO THE AMERICAN NEUROLOGICAL ASSOCIATION.

*Read at the meeting of the Association held at Albany, N. Y.,  
May 7th, 8th and 9th, 1914.*

By HENRY HUN, M. D.

It is a pleasant privilege to welcome to Albany the elite of American Neurologists whose discussion of important neurological questions at this the fortieth anniversary of the association's birth will, I trust, be of value to ourselves and others. To your kindness, rather than to any merit of my own, I owe the high honor of presiding at this meeting and delivering the presidential address, which should I think, be something apart from the scientific portion of the program and consist of a few remarks on the general polity and conduct of the association.

That such a society has its distinct and important function in American medicine cannot well be denied. Its existence is more than justified by its history. One has only to look over the earlier volumes of our transactions to be convinced of the wonderful strides that have been made in neurology during these forty years. How many questions in the anatomy, physiology and pathology of the nervous system, which now appear simple to us, were then without answer? The etiological relation of syphilis to many nervous diseases, the results of lumbar puncture, the conception of the neuron, the importance of suggestion in some of the forms of functional nervous disease; these and many other truths were then unknown, and in this advance of knowledge and in its dissemination the American Neurological Association has played no mean part.

But in addition to its scientific work, there is another, rather intangible, function of this association of scarcely less importance; that is the opportunity it gives for the contact of per-

sonalities. At our annual gatherings how many valuable friendships have been made! How many conversations have led to new points of view and new work! How many of the younger men have been inspired to their highest and best endeavors by contact with the leaders of their profession! Each one of us, I think, must be conscious of the good which membership in this association has brought him, more especially in his earlier and more impressionable years. This work of the association has been, I venture to believe, quite as important as its scientific achievement. Having then enjoyed the heritage, it behooves us to think how we can best further this work and make the future of the association more glorious than its past.

Doubtless the most important medical society in the United States is the American Medical Association. It is doing a great work in amalgamating, making more effective and improving the medical profession. Under its wise and broad policy it has established sections for the various specialties and among others a section for neurology. This department is freely open to every neurologist and physician in the country. Its meetings have been admirable in every way, and it has won and deserves only the most favorable criticism. Indeed, it might even seem that there is no need of any other national neurological society.

And yet, I think, the American Neurological Association is justified in its existence, and, I believe that it is better for American medicine to have the two associations move along on parallel lines than to have them merged together, or for each to attempt to do the same work and thus become competing rivals. Each should have its distinct sphere.

The American Medical Association, even in its special sections, is too immense. It is delightful to look into the eyes and clasp the hands of friends from all over the country, but too many others are waiting for the hand clasp and our conversation is all too brief. There is too much noise, confusion, bustle and hurry. One is apt to be lost in the crowd. The feast is too rich, varied and abundant for proper digestion. The A. M. A. is too all embracing for efficient scientific discussion and inspiring personal contact. It represents all degrees of intelligence and knowledge. Its papers are too uneven; some too advanced, some too elementary, for many in the audience. It is well that its neurological section should be open to all interested in the

subject, but there is room in addition for a small society limited to men who have had special training in the laboratory and in the clinic, who stand upon the same foundation of advanced knowledge, who are not merely practitioners but are doing original research work, whether laboratory or clinical, and are advancing the boundaries of our knowledge and who, if elected to membership, will make valuable contributions to its proceedings. Men of this type even in this broad land cannot be so numerous but that at the annual gatherings they can divide into small groups and quietly and without hurry talk over their recent work, its possibilities and its difficulties, and find aid and inspiration from enlightened comments.

How can we best select such men, and only such men, for membership in this association? There are few who know better than I do how impossible such a task is for the association at large and how extremely difficult and unsatisfactory it is for the council. Friendship counts for much, a man who is known and liked by several members of the council naturally has a better chance than one who is acquainted with none. The difficulty is that at the time of his election or rejection a man is not well enough known by the members; and yet it is of the greatest importance that desirable men, and only those, should be elected. An excellent plan to accomplish this, it seems to me, is to have a class of members, call them "adjunct members" or what you will, who shall be elected for a term of five years, at the end of which time their membership shall automatically lapse. During these five years these adjunct members may read papers and become acquainted with the active members and may themselves be elected to active membership at any annual meeting. In this way the members will be better able to judge of the qualifications for membership of each candidate.

Having selected high grade men as members, it is further essential that we should make the meetings so attractive that the members will desire to attend them and to be present at all the sessions. It is not unusual for a man to arrive on a morning train, read his paper and depart the same evening. The program should be so tempting that he will not willingly do this. It should contain no padding and nothing in the way of self-advertising. A paper should not be accepted for fear that the program may not contain enough material. There is

no danger of that. The material offered is always in excess of the time at our disposal and papers have to be presented in abstract; as indeed they should be. Papers which are purely theoretical and reports of cases without autopsy are, it seems to me, of little value. What we need are facts not theories.

Far be it from me to dictate what subjects are to be discussed at our meetings. Any ideas which are in the brain of anyone of our distinguished members are worth serious consideration, but we cannot waste too much time on every new vagary, and there are two dangers which, it seems to me, at present threaten neurology.

One of them is the absolute acceptance of, and belief in, statements by hysterical persons as to phenomena so extraordinary that they demand the most accurate proof and verification, and this too in spite of the fact that this class of persons has for centuries been proved to be the most unreliable and untruthful. Horrible judicial and other crimes have in the past resulted from accepting, as true, statements made by just such persons. In the present day we do not go so far, but we go too far, I think, for the credit of neurology.

The other danger is that we still cling to the old belief, which is, I admit, not without a basis of truth, that the cause of many functional nervous diseases and symptoms is to be sought not in the nervous system itself but within the pelvis. For the treatment of these pelvic conditions we, at first, called upon the surgeon for aid. When this association was first started extirpation of the clitoris was a favorite remedy for the neuroses. Then came extirpation of the ovaries as a cure. Then the treatment of malpositions of the uterus and above all of ulcers on the cervix. This surgical treatment having mainly failed and having usually left the patients in worse condition, we have taken the matter back into our own hands and some of us, and some of the most distinguished among us, regard the neuroses as due to a more or less unconscious repressed sexual feeling or disaster. This is more subtle than the surgical point of view and, I believe, in its diagnosis and treatment is more dangerous. There is doubtless truth in this theory, but the cures which this method of diagnosis and treatment may produce cannot compensate, it seems to me, for the injury done to a much larger number resulting from conversations and



suggestions lasting an hour or more, either daily or at short intervals, extending over weeks and months between a man and a woman, often both young, on all details of sexual knowledge and experience.

During the past year the association has lost by death five members.

Dr. S. Weir Mitchell was a man of such varied knowledge attainments and charm that he was a host in himself.

Dr. Edward C. Spitzka was one of the pioneers of scientific neurology in this country and had done most solid and enduring work.

Dr. Harry A. Tomlinson in addition to his scientific work was a most genial lovable man.

Dr. Henry Upson's work was of high character and

Dr. Ralph Parsons developed to a high degree the institutional side of our specialty.

The achievements of these men have been recorded elsewhere. Here we have only to express the sense of our irreparable loss.

In conclusion I thank you for the honor you have done me in electing me your president.

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## STUDY OF A CASE OF THE ADULT TYPE OF POLIOMYELITIS

### AND OF A CASE OF ACUTE ASCENDING PARALYSIS OF THE TYPE OF LANDRY.

*Read at the Annual Meeting of the American Neurological Association  
held at Albany, N. Y., May 7th, 8th and 9th, 1914.*

BY HERMON C. GORDINIER, M. D.

In reviewing the extensive literature which has accumulated in regard to Landry's paralysis, one is struck with the remarkable diversity of opinion which prevails with regard to the exact nosological classification of this symptom complex. Many authors, notably Ross, Putnam, Dejerine, Barton, Walton, Rolly, Pfeiffer, Eichhorst, Krewer, Mosuy, and Moutier, would classify all cases under the caption of acute toxic polyneuritis; whereas,

Westphal, Bernhardt, Taylor and Clark, Petit, Schmaus, Löhrish, Hlawka, Pierce, McPhedran, Harbitz and Scheel, Wickman, and others believe that it is closely allied, if not identical, with the rapid adult form of poliomyelitis. V. Leyden and Goldscheider conclude from the diversity of anatomical changes, that the affection may assume a bulbar, medullary or neuritic form; while Saltman believes, on pathological grounds, that a separation can be made into a neuritis, a myelitic form, and a form without anatomical findings. In support of Saltman's contention can be made into a neuritic, a myelitic form, and a form excellently recorded cases with negative post-mortem findings of Siefert, Hun, Ormerod, Gerandeau, and Levi, Kapper and Goebel, Rolly and Kelley.

Buzzard justly states that during the fifty years since Landry's classical case was published, nearly all the cases of acute ascending paralysis bearing any resemblance to its clinical features, and irrespective of their morbid changes, have been included in the category of Landry's paralysis. At the present it is generally recognized that the irresponsible use of this name has led to such a state of confusion in the literature of the acute forms of paralysis that any effort to extricate the cases which have, from the cases which have not, deserved the term, is fruitless. This unfortunate confusion has resulted for the most part in three ways: Many cases of acute poliomyelitis in adults have been mistaken for Landry's paralysis during life, and the diagnosis has not been revised when microscopical examination of the spinal cord has revealed the true inflammatory changes characteristic of the former disease. Acute ascending myelitis presents features, which have been responsible for the diagnosis of Landry's paralysis in certain instances. The undoubted occurrences of instances of acute toxic polyneuritis has led some observers to believe that Landry's original case was of that nature. The absence of an examination of the peripheral nerves renders the denial or confirmation of such a possibility in Landry's case equally unjustifiable.

From a careful study of the pathological findings of the recorded cases of this disease, it does not seem justifiable to place all cases of this complex under the head of polyneuritis.

Rolly, who has from the study of seven cases with three autopsies, insisted perhaps, more than anyone else on such a

classification, bases his conclusions from one case, in which the intra-muscular nerves were involved, whereas, in the other two cases carefully studied, no histological changes were found. The impartial observer, in reviewing the symptoms of this particular case, would unhesitatingly place it clinically, as a typical case of multiple neuritis. Pfeiffer, on the other hand, has recently studied a case of acute, ascending motor paralysis without subjective or objective sensory symptoms, in which distinct changes in the peripheral nerves, together with changes in the pyramidal cells of the motor cortex and lateral horns of the spinal cord were found. In a case of acute ascending paralysis of the type of Landry's reported by me in 1904, there were definite changes in the peripheral nerves and motor cells of the ventral horns of the spinal cord, and without perivascular round cell infiltration. In this case no nerve or muscle tenderness, or subjective, or objective sensory disturbances occurred.

In three cases of Landry's paralysis reported by Spiller, in one intense alterations in the spinal cord were found; in another, changes in both the ventral cornual cells, and peripheral nerves; and in the other, the changes were confined to the peripheral nerves alone.

This peculiar pathological distribution which seems to characterize Landry's paralysis, may perhaps be explained by the selective action of the toxin of the disease, it having in some examples a greater affinity for the peripheral nerves, and in others, for the spinal cord, with an especial predilection for the ventral cornual cells.

Wickman and Harbitz, and Scheel from an extensive experience with cases of poliomyelitis presenting widespread motor paralysis, both of the ascending and descending type, state emphatically that Landry's disease is nothing more or less than a very severe, acute form of poliomyelitis. That there is a close resemblance clinically and pathologically, between the very acute forms of poliomyelitis with widespread motor paralysis, and Landry's paralysis, is undeniable, and possibly they may be identical, in so far as the anatomical situation of the lesions are concerned, but their identity has not thus far been definitely proven, hence, the above statement seems rather too sweeping and dogmatic. If we stop to compare the more prominent symptoms and pathological findings of the two diseases, we will

see that certain distinct differences actually exist. The severe acute forms of poliomyelitis with widespread motor paralysis are ushered in with very severe constitutional symptoms, high fever, and with severe headache, often with stiffness or rigidity of the neck, backache, and pain in the limbs. The prodromal period of Landry's paralysis is on the other hand very much less marked, and is often missed. The majority of cases are either afebrile, or accompanied with a very mild degree of temperature, and slight paraesthesiae, rather than severe pain in the head, back, or limbs, are the subjective sensory symptoms, when such exist. While the beginning of the paralysis in the latter disease may be abrupt, it is usually symmetrical and rapidly ascending, or, very rarely, descending in type, whereas in poliomyelitis, the paralytic phenomena in the great majority of cases is less retarded usually, occurring simultaneously, following directly in the wake of the severe prodromal period; while the motor paralysis may be widespread, it is usually asymmetrical, as in the case herein recorded, and if death does not occur, one or more muscle groups usually escape, with early restoration of others, while other groups show marked atrophy and distinct electrical alteration. I have never observed a case of poliomyelitis with such widespread paralysis as I have seen in two cases of Landry's disease with perfect recovery, without some permanent muscular atrophy and altered electrical irritability. I, therefore, believe with Buzzard and Weir Mitchell that the complete restoration of all the paralyzed muscles to their normal functioning, without muscular atrophy, and only rarely with altered electrical reactions, which is the rule rather than the exception, in the complex of Landry, is in sharp contrast to the results which occur in the cases of acute, severe, widespread motor paralysis of poliomyelitis.

Pathologically, while the changes are quite similar both in location and type, they are very much less intense in Landry's paralysis than in poliomyelitis, and the small, mono-nuclear, round-cell, perivascular infiltration, which is so characteristic of the latter disease, is missed in many of the true cases of Landry's disease. Of great interest in this relation is the recent cultivation by Flexner and Noguchi, by a specially devised method, from the tissues of the central nervous system of human beings and monkeys, subject to epidemic poliomyelitis, of a





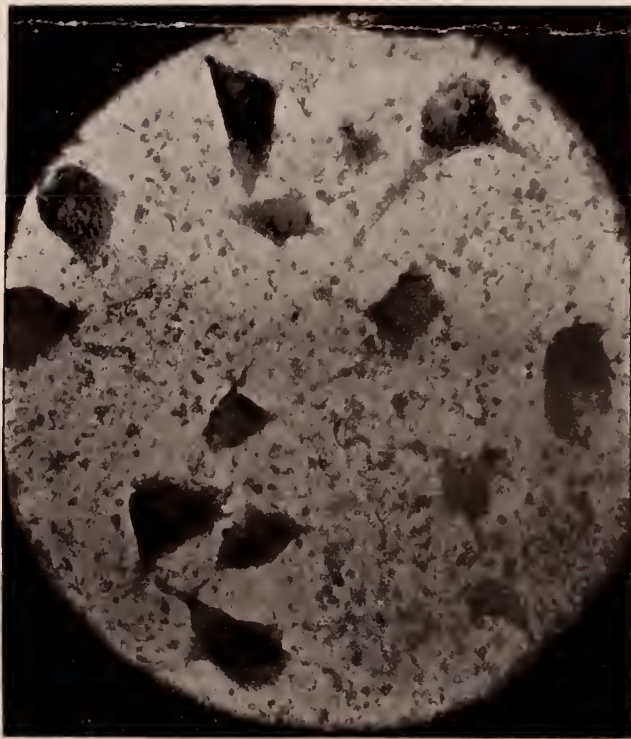
LANDRY'S PARALYSIS

Section through mid-cervical cord showing numerous dilated capillaries in the left ventral cornu. Note the absence of perivascular round cell infiltration.



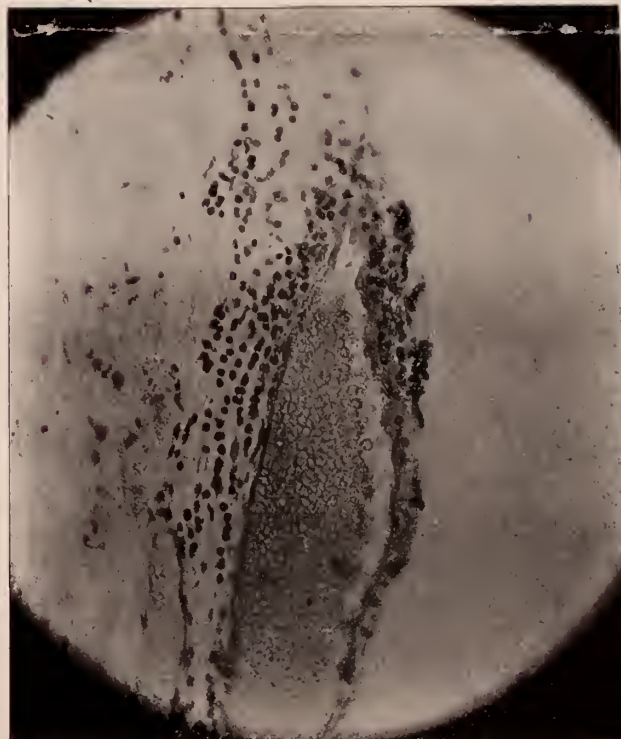
LANDRY'S PARALYSIS

Section through left ventral cornu of lumbar cord showing two small hemorrhages; note the numerous small blood vessels without round cell infiltration.



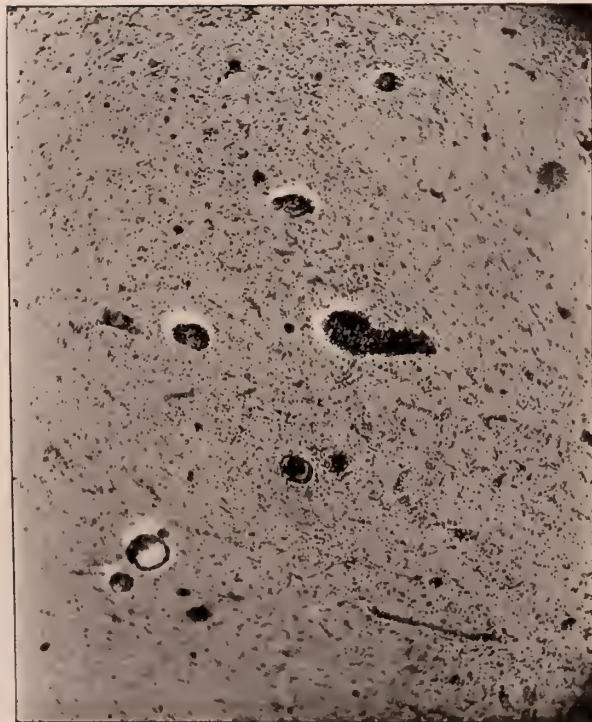
LANDRY'S PARALYSIS

A group of ventral cornual cells from a section through the mid-cervical region, showing all stages of chromatolysis.



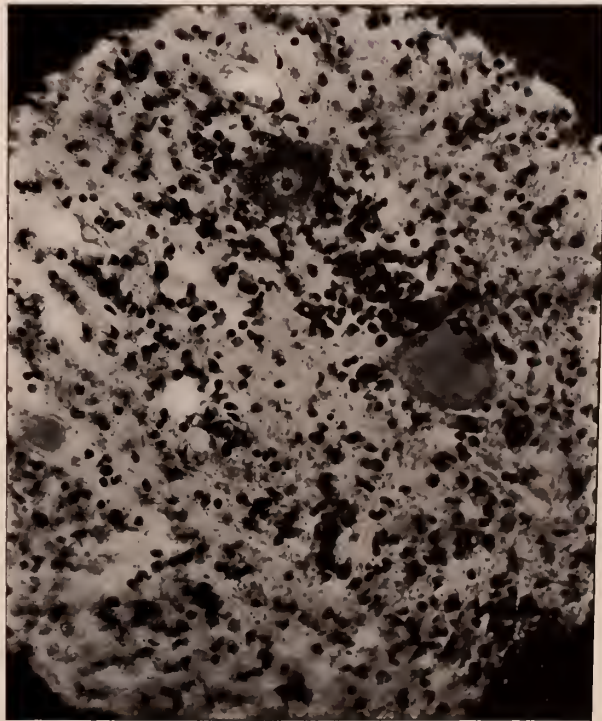
POLIO-MYELITIS

Section through upper cervical cord showing the ventral pia septum and central anterior with marked round cell infiltration.



POLIO-MYELITIS

Section of lumbar cord showing right ventral cornu near base, with interstitial and peri-vascular infiltration. Note the paucity of ganglion cells, due to edema, and cuff of round cells, surrounding vascular walls.



POLIO-MYELITIS

Section through right ventral cornu of lumbar cord showing intense round cell infiltration, polyblasts and degenerated ganglion cells.





peculiar ovoid organism, that seems to be specific for the disease, as they have been able to reproduce experimentally poliomyelitis by the injections of cultures of their ovoid bodies. Such being the case, the identity of the Landry symptom complex with poliomyelitis rests on the cultivation in the former disease of the ovoid bodies, or determining their presence in smears or stained sections; with this in view, parts of the central nervous systems of the case herein reported of this complex, were submitted to Dr. Noguchi, who has kindly consented to determine this point for me. I regret, however, to state that owing to the stress of too much work, he has thus far, been unable to render a decision.

From the standpoint of the differentiation of the two diseases, the results of the recent studies of Flexner, Clark, Wollstein, Joseph and Römer should be of great value, as they have shown that the blood serum from cases of poliomyelitis contain protective antibodies, which when mixed with the active virus of this disease completely neutralizes it, so that it may be injected intra-cerebrally into monkeys without inducing poliomyelitis; hence, with this serum or neutralization test, we should be able to establish the identity or non-identity of Landry's disease with that of poliomyelitis.

*CASE I.—A case of rapidly ascending motor paralysis of the type of Landry, which began suddenly in the muscles of the lower extremities, extended rapidly upward, involving in turn those of the trunk, upper extremities and diaphragm, and without subjective or objective sensory disturbances, resulting in death from respiratory paralysis eight days from the onset.*

Robert M., aged twenty-eight years; single; trainman by occupation. Stated that on January 19, 1912, when attempting to board his train, he had considerable difficulty in lifting his legs upon the steps to gain entrance to his car. The following day, after completing his run, he came home unaided. Without warning, while attempting to walk across the dining-room to his room, his legs suddenly gave way and he fell to the floor in a heap. He was unable to rise and was carried to his room and placed in bed. The following day, January 21, 1912, his physician was summoned and found him with a normal temperature, pulse and respiration, and with no other evidences of disease than that he was partially paralyzed from the knees down. His sensations were intact; he suffered from no pain, and the muscles and nerve trunks were not tender on pressure. His patella tendon reflexes were diminished and the plantar reflexes were lost.

*January 22, 1912.—Complete motor paralyzes of the lower extrem-*

ities were noted; no sensory loss; the tendon reflexes were absent; the pulse, respiration and temperature were normal.

*January 24, 1912.*—The motor paralysis has ascended to the lower trunk muscles and those of the right upper extremity. The whole left arm is in a condition of paresis. All sensations are intact; no pain or nerve tenderness exists. The pulse rate is 90, the respiration 20, and the temperature is normal. His mind is clear. The bladder and rectum are perfectly controlled.

*January 25, 1912.*—The trunk muscles are completely paralyzed. There is no disturbance of speech, and no difficulty in swallowing. His pulses is 90, respiration 20, and temperature normal.

On the morning of *January 26, 1912*, I saw the patient for the first time with Dr. McNab and made the following notes:

The patient assumes the extreme dorsal decubitus, and is absolutely unable to move the extremities, or to move from side to side, or to rise in bed. He is able to rotate his head and to partially extend it on to the chest. His respirations are 30—superficial and of the superior costal type. There is no evidence during inspiration of abdominal protrusion. Litten's diaphragmatic sign is absent on each side. His vision is normal; the ocular movements are free; the pupils are mid-wide, equal, and respond to light, consensually, and to accommodation and to sympathetic irritation. The optic discs and retinae are pale; otherwise normal. The movements of the masticatory and facial muscles are normal. The tongue is protruded in the median line and the movements are perfectly free. The palatal muscles contract normally. There is no difficulty of deglutition or dysarthria. His mind is perfectly clear, his expression is anxious, and his eyes are bright and staring.

*Motion.*—There is complete flaccid paralysis of the muscles of all four extremities and the trunk. The only muscular movements retained are those of flexion, rotation and extension of the head, and those of the tongue, eyes and face. The paralyzed muscles respond in a normal manner to electricity.

*Sensation.*—The sensations, both superficial and deep, were very carefully tested and found to be absolutely intact. There is no muscle or nerve tenderness, and no tenderness of the bones on percussion, or of the joints on movement. The spinal column presents no deformity or tenderness.

*Reflexes.*—The tendo-Achillis, patellar tendon, wrist and elbow jerks are absent on each side. All superficial reflexes are absent, including the interscapular. He has perfect control over the rectum and bladder.

Physical examination of his internal organs revealed no evidence of disease. The spleen is not to be detected by palpation nor outlined by percussion. The superficial lymph nodes are not palpable. The urine was normal. Blood negative.

I saw him again on the following day and he was in every way worse. His respirations are shallow and difficult; he is distinctly cyanosed. He could only articulate indistinctly and with great diffi-

culty, and could only swallow liquids, and those with great difficulty. There is no discernible action of the diaphragm. His rectal temperature is  $101.2^{\circ}$ , the pulse rate 96, and the respirations 30. His mind is perfectly clear and he suffers no pain. He has perfect control of his bladder and rectum, and no subjective or objective disturbances were discernible.

*January 28th.*—Difficulty in breathing is extreme. He is markedly cyanosed; respirations, 52; pulse, 180 and regular. He has had several attacks of suffocation. The rectal temperature is  $104^{\circ}$ . He died suddenly at 5 P. M.

#### POST MORTEM EXAMINATION

*January 28, 1912.*—Body is that of a well-developed and nourished male adult, measuring 173 mm. in length. Rigor mortis present and marked. Pupils equally dilated. Lividity over back and dependent parts.

*Abdomen.*—There is a moderate amount of free fluid in the flanks. Appendix is normal. Peritoneal surfaces are smooth and glistening. The mesenteric glands are not enlarged. Large fecal impactions fill the entire large intestine, and those in the rectum are very hard. The diaphragm is at the fourth interspace on the right and at the fourth rib on the left.

*Thorax.*—The pleural surfaces are absolutely devoid of adhesions and perfectly smooth. There is no free fluid. The lungs are normal.

The pericardium contains three drachms of clear straw colored serum. No adhesions are present.

The heart throughout is apparently normal. The valve leaflets are thin, delicate and competent. The valves are free from thrombi and vegetations. The musculature is of good color and feels firm to the touch. The coronary arteries are clear and unobstructed, as is the aorta. The heart action ceased in systole; the left auricle and pulmonary veins being greatly dilated.

*Lungs.*—The lungs are voluminous and crepitant throughout, and are mottled on the surface with carbon pigment. On section there exudes a copious amount of frothy fluid. There are no areas of consolidation. The bronchi are free, and on pressure a large amount of serum exudes.

*Liver.*—The liver extends one finger's breadth below the costal border. It is of normal color and consistency and perfectly smooth, and the capsule is not thickened. On section the color is normal and the lobules stand out distinctly. There is no increase of fatty deposit present, and no marked congestion. The gall-bladder is filled with bile, and contains no gallstones, and appears normal.

*Spleen.*—The spleen is normal in size and color, and is of moderately firm consistency. The capsule is not thickened. On section the pulp is firm. The malpighian bodies are visible, and there seems to be a slight preponderance of reticular tissue over the pulp.

*Kidneys.*—The kidneys are both alike and show no abnormality, save that both are engorged with urine in the pelvic portion. The capsules are smooth and strip easily. The cut surfaces show moderate congestion of the pyramids. The glomerular capsules are visible. The cortices are abnormal in size. The stellate veins are not injected, nor are there any calculi in the pelvis.

*Adrenals.*—The adrenals appear normal.

*Stomach and Intestines* are negative; the latter even where the fecal impactions are extreme, show no change in the mucosa or walls.

The bladder and genitalia show no change. The former is dilated with urine, as are both ureters, which measure in some places 1.5 cm. in width.

*Brain.*—The skull and scalp show no change. The dura is free and otherwise is negative. No thrombi exist in the sinuses and no general congestion is present. The pia seems perfectly normal, as does the whole cerebral cortex and base. The blood vessels of the brain show no changes. The brain stem, pons, medulla, cerebellum and spinal cord appear negative macroscopically. The spinal cord, pons and medulla show no macroscopic changes on section. Cultures taken from the cerebro-spinal fluid, heart's blood, brain, spinal cord, spleen and liver show no growth on Loeffler's Blood Serum.

#### MICROSCOPICAL EXAMINATION.

*Kidney.*—Section shows the tubules dilated in many places and filled with Hyaline Casts. There is a very slight increase in connective tissue.

*Liver.*—Shows a moderate chronic passive congestion in the periphery of the lobules and there is a slight degree of fatty metamorphosis.

The Adrenals, Pancreas, Spleen and Heart Muscles show no changes.

#### MICROSCOPICAL EXAMINATION OF THE CENTRAL NERVOUS SYSTEM.

Sections were made from various levels of the spinal cord, medulla and motor cortex and stained with hematoxylin and eosin, neutral red, Nissl's, von Giesson's and the Weigert Pal methods. The membranes of the cord and brain were normal. The small blood vessels of the ventral horns and intermediate gray matter were unusually prominent; many were dilated and contained thrombi. There was no perivascular or pericellular mononuclear celled infiltration. The vessel walls appeared normal. A moderate small round celled infiltration existed throughout the ventral gray matter, and especially about the slightly dilated central canal. Scattered through the ventral horns of the entire spinal cord, but especially prominent in sections through the lumbar and cervical segments, were multiple small capillary hemorrhages. The ventral horn cells at all levels, but especially those of the lumbar and cervical regions, showed distinct degenerative changes. Many of the cells appeared swollen, irregularly shapen, with their chromatin network deeply stained or very granular and pale. Some cells showed marked central chromatolysis with the peripheral granules intact, whereas others



showed both central and peripheral chromatolysis, with displaced nuclei, whose nuclear envelopes were wavy or irregular in outline, and some showed distinct fragmentation. A few cells were devoid of their nuclei and their Nissl bodies were degenerated into a fine dust. The normal pigmentary substance or lipoid of the cells was greatly in excess. Many shadow cells existed with absent nuclei, and with only a few scattered degenerated tigroid bodies. Some of these cells contained leucocytal inclusions and rested in dilated pericellular spaces, while the dendrites were, for the most part, preserved. Some cells were devoid of them, and there was in many of them a paucity of the Nissl bodies. Very slight chromatolytic changes existed in a few of the cells of Clark's column. They were otherwise normal, as were the cells of the posterior horns and those of the posterior spinal ganglia. The ventral nerve roots showed slight degenerative changes, doubtless secondary to the changes in the cells of the ventral cornua. The posterior nerve roots were normal. The intracornual nerve network appeared normal. Sections through the motor cortex, pons and medulla showed no definite changes. The peripheral nerves were normal. No degenerative changes were discovered in the white columns in sections stained after the method of Weigert-Pal.

*CASE II.—A case of acute poliomyelitis in a young adult, involving the muscles of both upper extremities and those of the left lower extremity. Death at the end of five days of respiratory paralysis.*

The patient, Mr. M. F., aged nineteen years, clerk by occupation, had always been in good health until the evening of July 13, 1913, when on his return from a visit to Kinderhook Lake, he suddenly sickened, with a temperature of 104, excruciating headache, pains in the limbs and back, nausea and severe vomiting. The bowels were constipated, but were quickly relieved with calomel. On the day following he was greatly surprised to discover that both of his arms were almost powerless and that he could move only the foot and toes of the left leg. The right leg was left unaffected. He complained of no pain or subjective sensory disturbances. His febrile reaction continued from the day of onset until Friday noontime, when it dropped to normal. I saw him, in consultation with his physician, Friday, July 18, at 3.30 P. M., and found him in bed with distinctly flushed face, and lips and finger tips cyanosed, and suffering from marked dyspnoea. His respirations are 40, very superficial and of the superior costal type. There are no abdominal respiratory movements. Both leaflets of the diaphragm are evidently paralyzed, as no evidence exists on either side of Littern's diaphragmatic shadow. The pulse rate is 130; regular and easily compressible, with systolic blood pressure 110 mm. hg.; D. B. P., 80 mm. hg. He can move his head in all directions. There is no rigidity of the neck muscles, and those of the trunk seem uninvolved. His pupils are equally contracted, but responsive to light and accommodation; the ocular movements are free; his visual fields are normal, and the optic discs and retinae show no changes. There is no difficulty of deglutition.

The facial muscles are intact. The tongue is protruded in the median line. His voice is normal and mind perfectly clear. There is no disturbance of hearing or of the sense of smell or taste. The bladder is controlled. There is complete motor paralysis of the muscles of both arms and paresis of those of the forearms. The left lower extremity only permits of abduction, adduction, flexion and extension of the foot and normal movements of the toes. The movements of the right lower extremity are perfectly normal.

*Sensations.*—There is no tenderness of the skull or spine, or of the long bones on percussion. The nerve trunks or muscles are not tender on pressure. The Kernig and Brudzinski signs are absent. There are no objective sensory disturbances.

*Physical Examination.*—Physical examination of the internal organs showed only an enlarged palpable spleen. No enlarged lymph nodes are present. The patient died rather suddenly Friday evening of respiratory failure.

The post-mortem examination was confined to the central nervous system. The dura was normal; sinuses free. The pia arachnoid showed increased vascularity. No exudate was observed. There was an increase of the cerebro-spinal fluid. Otherwise the brain appeared normal.

*Spinal Cord.*—The membranes of the spinal cord were deeply injected, and there was an increase of cerebro-spinal fluid. The spinal cord on section showed, in the region of the central gray matter, remarkably increased vascularity, which gave that region a deep purple or velvety appearance, thus making the letter " $H_2$ " stand out clearly in sharp contrast to the surrounding white matter.

#### MICROSCOPICAL EXAMINATION

*Spinal Cord.*—The most obvious change is a remarkable perivascular and interstitial round-cell infiltration universally distributed throughout the spinal cord, being most marked in the cervical and lumbar regions. While this infiltration is particularly striking in the ventral horns and intermediate gray matter, it is not confined to these regions, as it exists to a lesser degree in the posterior horns and surrounding white matter. The pia mater, especially that portion covering the ventral surfaces of the cord and medulla, shows both a diffuse and vascular mononuclear, round-cell infiltration. Many of the centripetally coursing vessels, supported by the delicate sub-pial neuroglia septa, show marked adventitial infiltration. The dura was normal throughout. The central canal seemed enlarged and contained a number of small round cells. The ganglion cells, especially those of the cervical and left lumbar segments, are greatly reduced in numbers—which, I believe, is explainable by the accompanying edema, and show all stages of degeneration, from slight early chromatolysis to absolute destruction, and many cells were the seat of an active neurophagocytic process. The blood vessels, especially of the central gray matter, are dilated and full of blood corpuscles. No capillary hemorrhages were observable. The round-cell infiltration is chiefly of the lymphocytic type, with small

deeply stained nuclei, with non-granular protoplasm; diffusely scattered through the gray matter are a number of larger cells, with granular protoplasm, that may be polyblasts or glia cells. The ventral or dorsal nerve roots showed no definite change.

The Weigert stain showed no degeneration of the fibres of the white columns of the cord. Considerable separation of the fibres existed, however, as if from the compression of edema. Similar changes, although not as pronounced existed in the medulla and pons, especially in the region of the cranial nerve-nuclei and in the pia.

The cerebellum appeared normal. The para-central lobule showed both a diffuse and vascular, round-cell infiltration. The pyramidal cells of the cortex showed no pronounced alterations.

I have endeavored to contrast the symptoms and pathological findings of a typical case of the Landry symptom complex with that of a case, also typical of the adult type of poliomyelitis, with widespread motor paralysis.

The first case reported is interesting, because of the rapid ascending motor paralysis beginning suddenly in the muscles of the legs, involving in turn, those of the thighs, trunk, upper extremities and diaphragm, resulting in death from respiratory paralysis, eight days after the onset, without subjective or objective sensory disturbances, or other prodromata, and continuing afebrile until the day preceding death,—the post-mortem presenting no macroscopic changes. Microscopically, were found degenerative changes, confined to the ventral cornual cells and intermediate gray matter, together with small capillary hemorrhages, without edema, or round cell infiltration, either of the vascular walls or the pia.

The second case, on the contrary, was ushered in with marked prodromata, high febrile reaction, and was followed twenty-four hours later by paralysis of the muscles of both upper extremities, diaphragm, and those of the left lower extremity, while those of the right lower extremity remained uninvolved, death following in five days from respiratory failure. The autopsy showed great vascularity of the pia-arachnoid of the brain and cord, intense vascularity of the spinal gray matter with remarkable round cell infiltration, both interstitial and vascular throughout the spinal cord, being less marked in the medulla and motor cortex.

#### CONCLUSIONS.

(1) I wish to lay especial emphasis on the absence in this case, and the one heretofore recorded, together with many of

the recorded cases, of the Landry complex in the literature, of mono-nuclear round-cell infiltration of the pia, and of the vascular walls, which is so characteristic pathologically of poliomyelitis.

(2) I believe from the study of the case herein recorded, and from a careful survey of the literature of Landry's disease, and that of poliomyelitis and multiple neuritis, that we still have a group of cases such as has been portrayed in this paper, identical, or at slight variance with Landry's original description. These cases cannot be relegated either on clinical or pathological evidence, to the adult type of poliomyelitis or multiple neuritis. In view of the facts here presented, I believe that the term "Landry's Paralysis" cannot be dropped.

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## MODERN PSYCHIATRY AS RELATED TO THERAPEUTICS.

*Read before the American Therapeutic Society at Albany, N. Y., Saturday,  
May 30, 1914.*

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By therapeutic progress we can gauge accurately the forward trend of scientific medicine. Empiricism is closely allied to dogmatism and is little more than a cloak for ignorance. Modern therapy is the adaptation of recent developments in materia

medica and chemistry to the indications so clearly suggested by a more intimate knowledge of etiology and a better understanding of bacteriology and pathology. The antitoxin treatment of diphtheria, so revolutionary in its character, was but an index of therapeutic progress based upon principles thoroughly established by the corroboration of Ehrlich's side-chain theory. The serum treatment of epidemic cerebro-spinal meningitis was an application of modern progressive therapeutics to the solution of a problem which had long been one of the mysteries of pathology.

There is probably no more striking illustration of the brilliant achievements of the last two decades than the vaccine therapy inaugurated by Sir A. E. Wright. This affords much encouragement and bids fair to revolutionize in time the treatment of various infectious diseases. The significance of the discovery of salvarsan is as yet not fully understood. The progress of recent years points, however, in no uncertain way to a therapeutic renaissance which cannot be questioned, and every branch of medical science is materially affected.

In view of these facts, a discussion of the relation of modern therapeutics to the newer conceptions of psychiatry is well warranted. As in other fields of research, much progress has been made recently. Psychiatry is more clearly an exact science than it has ever been. General paresis, cerebral syphilis, idiocy, epilepsy, senility, central neuritis, the organic conditions dependent upon brain growths, softenings, arteriosclerotic changes, etc., the presenile condition described by Alzheimer, are all readily demonstrable by means of the microscope. Manic-depressive insanity, dementia praecox, involutional melancholia, Korsakow's disease, the infective-exhaustive psychoses, psychoneuroses and constitutional inferiorities are entities only comparatively recently described or understood.

Our present ideas of a hospital are radically different from those of a few years ago. This progress is to be credited largely to Kraepelin, Wernicke, Ziehen, Nissl, Alzheimer, Breuer, Freud, Janet, Jung and others.

With these newer conceptions of the fundamental principles underlying mental diseases, new therapeutic principles have been applied to the treatment of insanity. To make these changes clear, a brief retrospect will prove enlightening.

Those of you who have any recollection of the therapeutic

procedures advocated in the medical colleges twenty years ago by those who lectured on mental diseases will probably think first of bromides and the strait jacket. As a matter of fact, there was little or no instruction given in this subject. The treatment of insanity was largely restricted to the control of excitement by either medicinal or mechanical restraint. Aside from this, the care of the insane was almost entirely custodial. The earlier numbers of the *American Journal of Insanity* show that blood letting was thought by some to be one of the most promising therapeutical procedures available in the treatment of mental conditions. The discussions of such questions as this have disappeared from our literature. The comparatively recent works of Esquirol, Maudsley, Tuke, Regis, etc., will testify eloquently to the fact that the various forms of mechanical restraint have only recently ceased to be questions of grave importance. Notwithstanding the fact that such well deserved tributes have been paid to the memory of Phillipe Pinel, who removed the chains and shackles from the insane in the Bicêtre and Salpêtrière in 1792, much time has been devoted by more recent writers to the discussion of various forms of restraint by means of cuffs, straps, strong sheets, camisoles, etc. The general public still believes that the strait jacket is an indispensable adjunct to the treatment of insanity.

It is only a short time since excitement or violence on the part of the insane invariably called for hypodermics of morphine and hyoscyamine. Sleeplessness was treated universally in the asylums by chloral, paraldehyde, trional, sulphonal or opium. Many general practitioners are still inclined to resort to bromides at the first indication of mental disturbance. The text books of a few years ago all call attention to the value of ergot in the treatment of insanity. Potassium iodide was also considered to be very valuable in certain non-syphilitic conditions. The violent cases were locked in strong rooms and left to their own devices. Strong sheets and camisoles were extensively used.

With the advent of the modern era in medicine, these forms of treatment have largely disappeared and our conception of insanity has materially changed. The influence of the moon on the mind is no longer recognized and the words "lunacy" and "lunatic" have been relegated to the past. The custodial character of the asylum has been replaced by the more advanced



therapeutic procedures of the modern hospital and the horrors of the mad-house are now only an unpleasant memory. The hospital to-day is the center of pleasant surroundings and is provided as far as possible by homelike atmosphere, books, pictures and flowering plants. Rugs and curtains are as conspicuous by their presence as they formerly were by their absence. Music, recreation and employment relieve the monotony and dreariness of life. The inmate of former years has now attained to the dignity of a patient in every sense of the word.

It is not, however, to be assumed that as a result of a more definite understanding of the psychoses, the symptomatology of insanity has radically changed. We still have to do with the excitements and must provide proper care for the cases formerly referred to as "disturbed." The strait jacket has been discarded and replaced by hydrotherapeutic treatment. Mild cases of excitement are often controlled by hot or cold packs. An important part of the armamentarium of the psychopathic hospital is the prolonged bath. In this form of treatment patients suffering from acute excitements are subjected to the so-called prolonged bath at a temperature ranging from ninety-six to ninety-nine degrees Fahrenheit, for a period varying from several hours to several days and frequently with most excellent results. The water in the tub is controlled by a mechanical contrivance permitting a careful regulation of the temperature. Special provision is made for the escape of excreta and it is not necessary to remove the patient from the tub for any purpose until the object of the treatment is obtained. Nourishment is administered at proper intervals and the patient often goes to sleep. The skin may be protected by the application of an oil to prevent maceration.

The continuous warm bath furnishes us with the best means at our disposal for controlling excitements in the insane. A properly equipped and complete hydrotherapeutic outfit is now an indispensable feature of the modern hospital for the insane. The hot air bath is used and the various forms of shower, spray bath, douches, sitz baths, etc., are all indicated under certain circumstances. Hydrotherapy is used for its eliminative as well as its tonic effect, and in each case the treatment is prescribed by a physician and administered by a competent and experienced attendant. The hydrotherapeutic equipment includes rest and



dressings rooms as well as rooms for massage, an important adjunct to the hydrotherapeutic procedures. Material benefit is to be expected in the hydrotherapeutic treatment of alcoholism, drug and toxic psychoses, infective-exhaustive cases, hysterical and neurasthenic psychoses, occasional cases of dementia praecox and involutional melancholia. Electricity is beneficial in the neurological conditions which are so often to be found in the hospitals for the insane.

The occupation of patients, which was instituted originally in the asylums for purely industrial and commercial purposes, has become one of the most important therapeutic factors. It has been found that many cases of dementia praecox of long standing and apparently far advanced in mental deterioration can be greatly benefited by a systematic form of re-education. These methods are graduated in character and adapted largely to the individual cases. The patients are first interested in music, singing, simple forms of calisthenics and drills, dancing, basket ball and games. These preliminary steps lead gradually to sewing, basket making, embroidery, fancy work, artificial flower making, rug weaving, brass work, etc. Many are enabled later to adapt themselves to work in the various industrial departments of the hospitals and assist in making shoes, brooms, brushes, mats, etc. The mental improvement in many cases goes hand in hand with the physical improvement and a renewed interest in their surroundings. A considerable percentage are able to return to their former occupations and make permanent recoveries.

Psychology has come to play an important part in the study of psychiatry. This is largely due to the researches of Freud and others. His studies of hysteria led him to believe that disease to be the result of a psychic trauma which the patient himself had lost sight of. His observations led to the conclusion that these traumas were always of a sexual nature and referred to some painful experience in the early life of the individual. This unpleasant incident is intentionally repressed into the subconscious strata of the mind and forgotten, but may be radiated in the physical sphere in the form of a symbol or hysterical manifestation. The method of arriving at the cause of such a disturbance is now well known under the name of psychoanalysis. Freud advanced the idea, which has not been uni-

versally accepted, that the elicitation of the buried complex would result in a cure. Be this as it may, the application of psychoanalysis to the study of dementia praecox, the anxiety psychoses, the psychoneuroses and other mental disorders has resulted in an understanding of the fundamental principles underlying these disturbances which has had much to do with their cure. Meyer and Hoch in their studies of dementia praecox have called attention to certain psychogenetic etiological factors which enter into the explanation of the psychological factors of that disease. If these theories are correct, this form of insanity is largely a functional disturbance due to faulty mental habits developing in individuals who are unable to adjust themselves to their surrounding. It will readily be seen that very definite therapeutic procedures are thoroughly indicated.

It will be observed in this connection that from a psychiatric point of view, there will be included many lines of treatment not mentioned in materia medica as commonly understood. It will, I think, not be amiss to call attention to the importance of the recent adaptation of the Mendelian theories of heredity to the study of insanity. While this is not in a direct line with the treatment of the disease by drugs, there has been nothing more important in therapeutics than prevention.

The studies of this subject which have received so much attention would tend to show that the development of insanity in a given family is not an accident, but in many instances follows definite laws of transmission from one generation to another. Insanity is as clearly transmissible as chorea, cretinism, epilepsy, or any of the conditions now so clearly traceable to hereditary influences. This knowledge points to very definite hygienic procedures.

In the therapeutic consideration of psychiatry, we must not entirely lose sight of drugs. We are indebted very largely to Alzheimer and Nissl for knowledge of the pathological process which characterizes the disease known as general paresis. After the introduction of the lumbar puncture, it was determined that there was a material increase in the globulin content of the spinal fluid in that disease and that a marked lymphocytosis was demonstrable. The investigation of the spinal fluid and the blood serum of paretics by the Wasserman reaction did much to confirm the suspicion which had been long entertained that

general paresis was a syphilitic or parasymphilitic disease. The only confirmatory evidence required was the discovery of the *treponema pallidum* in the cortex of the paretic. The fact that the history of syphilis was so common in such cases had led years ago to the use of mercury and iodides, but without material benefit. The advent of salvarsan suggested new possibilities, but it was soon discovered that by either the intramuscular or intravenous method of administration, a cure was not to be expected. If, as would seem to be definitely determined by the discovery of the *treponema* in the cortex, paresis is merely one form of syphilis and it should certainly yield to syphilitic treatment. The injection of salvarsan into the spinal canal by the so-called Swift-Ellis method would appear to be highly promising at the present time. This consists, to be more strictly accurate, in the injection of previously "salvarsanized" blood serum, if such a term is permissible. The intracranial administration of salvarsan has also been resorted to. Whether or not these particular methods of treatment will afford relief in the so-called parasymphilitic conditions remains to be seen. It is, however, a reasonable assumption that this vexing problem is one which is rapidly approaching a solution.

While the numerous factors which enter into a complete understanding of the etiology and pathology of the various mental diseases are not yet entirely clear, decided advances have been made along the lines of treatment and it must be admitted that psychiatry has contributed its share toward the modern progress made by therapeutic science.

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### Clinical and Pathological Notes

*The Impulse to Wander.* By JOHN B. CHAPIN, M. D.

There appear occasionally in the daily press accounts of persons who have taken journeys, and have wandered from their homes in an apparently unconscious state, and "come to themselves" suddenly in some strange place, unable to account for their wandering or their situation. Allowing for the exaggerations with which such cases are reported for their sensational effect, there still seems to be some reason to believe they occa-



sionally depend upon a pathological or morbid condition. One instance was that of a clergyman who was said to have left Boston and found himself selling newspapers in Norristown, Pa. He stated he was unable to give an account of his travels or explain his mental condition. Several cases occurred in young people, and afford illustration of the peculiar mental deviations which may occur at this susceptible period. The record which follows is authentic, there was a definite loss of health, and there is no reason to assume for the young man an inclination to deception. He was a medical student, aged twenty-two, attending lectures in Philadelphia, who was preparing for his final examination, and was broken down from study and loss of sleep. Suddenly he disappeared and his room-mate notified his father, who came from the vicinity of York to search for him. Detectives were employed, the Pennsylvania Railroad stations were notified, and searchers followed the railroad tracks, but there was not a trace for several weeks, and then the father received a letter from New York City from a woman, who stated she daily gave a young man who came to her door some food in a paper bag. The boy gave no account of himself or his name until one day she procured a bit of paper on which the father's name appeared, and then she wrote. The boy, when found by the father, gave no account of himself and was absolutely reticent, and persisted in saying he had never been in New York. He was taken home and again disappeared, to be found in the streets of New York, after which, on January 19, 1897, he was admitted to the Pennsylvania Hospital.

It was then stated that in the spring of 1894 he had an attack of "grip." A few days afterward wandered away, and ten days subsequently was found in New York in a wretched condition. From then until the fall of 1895 he remained at home, part of the time in a state of depression.

He returned to the University in the fall of 1895, and began to study very hard. In March, 1896, he wandered away again, and returned to the same low districts in New York, where he remained thirty-three days, and then informed his father where he was. He was found in a deplorable condition, had lost much flesh, and was very confused.

The father described his son's condition when he found him in New York, as follows:



"The first time (three years ago) I found him in a *cheap* lodging house on White, near Baxter Street. He seemed in a *dazed* condition, totally *indifferent* to his surroundings. As you surmise, I did try to investigate, but could really learn *nothing*. His landlady said he seldom left his room, and it was a mystery to her how he lived—that to questions he would reply 'Yes' or 'No,' but never entered into conversation or gave the least information. I examined his pockets and found a number of paper bags that had contained crackers or cakes, and such things, and no doubt but his diet was of this character. The first time he was absent ten days; the second time thirty-three. On this last trip I do not think he had any one place to lodge, but wandered about. His condition was much the same as before. He would reply to all questions, but never asked any. It seemed a trouble and effort for him to do any one particular thing.

"I feel very sure that his whole trouble is from his stomach, left disordered by the grip. I never considered him insane (a lunatic), but knew that he was *depressed and discouraged*, and that he personally *fully* realized his condition. Perhaps if you questioned him closely you could learn from him something of what you wish to know."

On admission to the hospital he was reticent, and said he could not remember anything about his wanderings. He continued depressed, and in very poor physical and mental condition. His appetite was poor, he slept but little, and functions were not properly performed. He locked himself in his room and turned the gas on.

*January 22, 1897.* Patient states that he has not slept well—is rather slow in response to questions, but is not mentally confused. When questioned responds intelligently, but does not attempt to carry on a conversation.

*February 2, 1897.* He seems to be gaining somewhat, and now plays games, reads and seems to enter into diversions with interest and spirit. Says his head is feeling much more comfortable, but still complains of a burning sensation in the roof of his mouth.

*February 25, 1897.* Looking better physically, and his depression seems less intense. Complains a good deal of uncomfortable feeling in the roof of his mouth, and the sensation is usually one of heat. Says he has suffered from this for a long time, and has tried many remedies for its relief, but without success. He is very dyspeptic, and every few days has severe pain in stomach and bowels.

*March 16, 1897.* Physical condition has improved consider-

ably, and his dyspeptic symptoms are less troublesome. He still has the burning sensation in his mouth.

*March 31, 1897.* There has been some gain physically, and he does not seem quite so depressed, though he still complains of a sensation of heat in his mouth. Though he has parole of the grounds, he does not go out and never before 11 or 12 o'clock in the morning. He has gained six pounds since admission, and now weighs 149 pounds.

*April 20, 1897.* For some days past he has been quite restless, and now that three months have expired since his admission he is demanding his discharge and is very unreasonable when told that it seems necessary his treatment should continue longer. Last week he took no food from the morning of the 9th until the evening of the 11th inst.

*April 23, 1897.* During the night he pounded upon his door, demanding that the night-watch should come into his room and close the window, which the watchman had raised an inch or two while the patient was in the bath-room. He made so much noise, and became so excited, that he was transferred to another ward, and in going there fought desperately and struck the attendant in the face several times. This morning he was returned, but at dinner time his conduct became such that he was about to assault the night watchman who had interfered with him during the night, and he was again removed. This evening he began to complain of his treatment and called the physician bad names. When remonstrated with the patient made a sudden and violent attack, and he was controlled with great difficulty.

*April 24, 1897.* He continues very morose and sullen, but has not been violent.

*April 25, 1897.* He has had quite a comfortable day, and spent the afternoon at the Natatorium. Takes food well.

*April 27, 1897.* The patient seems considerably more quiet and composed, though it is questionable if he has any consciousness of what he has been doing and saying during the last two or three weeks. He was transferred to the care of his father on a trial visit.

*October, 1898.* A letter recently received from his father states that he is in good health, and is holding a position.

*November 14, 1899.* Patient's father reports that he is well.

Another case occurred during my service at Brigham Hall. A boy of seventeen, who was silent, passive, apparently advanced in dementia, absorbed by delusive ideas, escaped by climbing over a transom and through a window by a six-inch opening and absolutely disappeared. Circulars were distributed along the railroad and canal, but no trace was found. Six months later a letter was received from an inland county of Pennsylvania, among the mountains, from a woman, who wrote that a boy came to her kitchen door daily to receive some food and then went into the near-by mountains. He would not disclose his name or home. One day he gave the woman a slip of paper with my name upon it. She wrote to me and we sent for the patient, being satisfied as to his identity. This boy always declined (by his silence) to give any account of his wanderings. He made a recovery.

Both these cases might be described, but not explained wholly, on the hypothesis of a suspension of the sense of personality and environment, and the yielding to an automatic impulse. A German writer, Donath, discussed a similar condition in epileptics in 1899 and again in 1907, and automatic mental action is accepted as a peculiarity of certain cases of epilepsy. These two cases, however, showed no other symptoms of epilepsy, and their experiences may be attributed to partial suspension of cerebral action, which is perhaps characteristic of morbid or abnormal states of the brain at the period of adolescence. Under improved physical conditions recovery occurred.

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## Editorial

Miss Thorne looked awfully severe. "Take care, my dear," said she, "that the man knows what he's about; take care he doesn't destroy your little boy. But"—and she softened into sorrow as she said it, and spoke more in pity than in anger—"but I don't know who there is in Barchester now that you can trust. Poor dear old Doctor Bumpwell, indeed—"

"Why, Miss Thorne, he died when I was a little girl."

"Yes, my dear, he did, and an unfortunate day it was for Barchester. As to those young men that have

‘come up since” (Mr. Rerechild, by-the-by, was quite as old as Miss Thorne herself), “one doesn’t know where they came from or who they are, or whether they know anything about their business or not.”

“I think there are very clever men in Barchester,” said Eleanor.

“Perhaps there may be; only I don’t know them; and it’s admitted on all sides that medical men arn’t now what they used to be. They used to be talented, observing, educated men. But now any whipper-snapper out of an apothecary’s shop can call himself a doctor. I believe no kind of education is now thought necessary.”

*Barchester Towers.*

ANTHONY TROLLOPE.



The  
Yale Medical  
School.

The ANNALS notes with pleasure the large contributions recently announced by the Yale Medical School as establishing this department of Yale University upon the highest plane of efficiency.

The celebration of the centennial of the school was taken as the occasion for urging its needs, especially of a liberal endowment to meet the pressing demands for present-day instruction in medicine. Two million dollars was set as the minimum amount, and President Hadley announced gifts of one and three-quarters millions. The largest contribution was from the family of the late Anthony N. Brady, of Albany, N. Y., who propose to establish the “Anthony N. Brady Memorial Foundation,” of five hundred thousand dollars, the income of which is to be given annually for ten years to the University to enable the latter to conclude an alliance between the New Haven Hospital and the School. If, within ten years, the total endowment is obtained by the University, exclusive of the Brady gift, their contribution will revert to the University. The Brady family have also given one hundred and twenty-five thousand dollars for the erection and equipment of a clinical and pathological laboratory.

Toward the sum sought for endowment the general education board has offered five hundred thousand dollars, a gift of four hundred thousand dollars has been made to establish the “Anna M. R. Lauder Chair of Public Health,” and two alumni of the school have pledged one hundred thousand dollars each.

The authorities of the school are to be congratulated upon the promise of its evolution upon modern lines.



In 1777 a professorship of medicine was first proposed at Yale, and the "Medical Institution of Yale College" was established in 1810 as the sixth medical school in the United States. Instruction was begun in 1813 under Professor Nathan Smith, as professor of theory and practice of physic, surgery and obstetrics; Eneas Munson, professor of materia medica and botany; Eli Ives, adjunct professor of materia medica and botany; Benjamin Silliman, professor of chemistry and pharmacy, and Jonathan Knight, professor of anatomy. Since its opening the school has moved in the even tenor of its way, and has perhaps lapsed gradually from a leading place among institutions of its kind, in the aggressive procession led by Harvard and Johns Hopkins.

It is apparent that antiquated methods of conducting medical colleges cannot longer prevail. The members of the faculty may no longer sit in solemn session, divide the fees of the year and distribute professorships among themselves and their friends. The education of a physician requires a higher service than this, and one that cannot be directed outside the purlieus of a university. The Yale Medical School is fortunate in its alliance with the University whose name it bears. For the more intimate relation now established and the lofty ideal of administration proposed, much may be attributed to Dr. George Blumer, Dean of the Medical Faculty. The ANNALS would like to believe that some of his inspiration came from Albany, where, as the first Director of the Bender Hygienic Laboratory, his influence was felt. There are regret that his eminent abilities have been lost to Albany, and disappointment that conditions in the home city of the late Anthony N. Brady have not presented an opportunity for establishment here of the eminently practical institution to be erected to his memory. It is expected that in the not distant future, a close alliance with Union University and wise administration of its medical department by the University will secure the fame of the Albany Medical College, and demonstrate the existence of an active spirit of progress. In the meanwhile, the diversion of the wealth of Albany to a highly honored institution, to be administered by a worthy Albanian by adoption, is a source of satisfaction.

# Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JULY, 1914.

## Deaths.

Consumption . . . . .	26
Typhoid fever . . . . .	1
Scarlet fever . . . . .	0
Measles . . . . .	0
Whooping-cough . . . . .	0
Diphtheria and croup . . . . .	0
Grippe . . . . .	0
Diarrheal diseases . . . . .	5
Pneumonia . . . . .	2
Broncho-pneumonia . . . . .	0
Bright's disease . . . . .	15
Apoplexy . . . . .	6
Cancer . . . . .	14
Accidents and violence . . . . .	6
Deaths under 1 year . . . . .	28
Deaths over 70 years . . . . .	29
<hr/>	
Total deaths . . . . .	148
Death rate . . . . .	15.83
Death rate less non-residents . . . . .	13.16

## Deaths in Institutions.

	Resident.	Non-Resident.
Albany Hospital . . . . .	10	9
Child's Hospital . . . . .	0	0
County House . . . . .	3	5
Homeopathic Hospital . . . . .	5	0
Home for the Friendless . . . . .	1	0
Hospital for Incurables . . . . .	1	0
House of Good Shepherd . . . . .	0	0
Little Sisters of the Poor . . . . .	2	0
Public places . . . . .	1	3
St. Margaret's House . . . . .	2	2
St. Peter's Hospital . . . . .	8	0
Austin Maternity Hospital . . . . .	3	1
Albany Hospital, Tuberculosis Pavilion . . . . .	3	1
Labor Pavilion . . . . .	1	1
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Total . . . . .	40	22

Births . . . . .	185
Still births . . . . .	6

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive . . . . .	8
Negative . . . . .	42

Total . . . . .	50
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Living cases on record July 1, 1914 . . . . .	361
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## Cases reported:

By card . . . . .	27
Dead cases by certificate . . . . .	7
	<hr/> 34

Total . . . . .	395
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Dead cases previously reported . . . . .	19
Dead cases not previously reported . . . . .	7
Removed . . . . .	14
	<hr/> 40

Living cases on record August 1, 1914 . . . . .	355
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Total tuberculosis death certificates filed during July . . . . .	26
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## Non-resident deaths:

City at large . . . . .	1
Albany Hospital . . . . .	1
Albany Hospital Camp . . . . .	1
Hospital for Incurables . . . . .	1
	<hr/> 4

City tuberculosis deaths . . . . .	22
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*Report of Visiting Tuberculosis Nurse.*

Old cases . . . . .	17
New cases . . . . .	28
Returned from hospitals . . . . .	11

Total . . . . .	56
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## Disposition of old and new cases:

Died . . . . .	9
Sent to hospitals . . . . .	12
To general tuberculosis nurse . . . . .	20
Lost track of . . . . .	1
Left town . . . . .	2
Remaining under treatment . . . . .	12

Total . . . . .	56
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Visits made .....	21
Visits made, old cases.....	52
Calls at Board of Health office.....	28

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	4
Scarlet fever .....	4
Diphtheria and croup.....	4
Chickenpox . . . . .	0
Smallpox . . . . .	0
Measles . . . . .	0
Whooping-cough . . . . .	9
Consumption . . . . .	36
Cerebro-spinal meningitis .....	0
Septic sore throat.....	1
Total.....	58

## Number of days quarantine for diphtheria:

Longest..... 21      Shortest..... 5      Average..... 13

## Number of days quarantine for scarlet fever:

Longest..... 60      Shortest..... 24      Average..... 36

## Fumigations:

Houses..... 40      Rooms..... 197

Cases of diphtheria reported..... 4

Cases of diphtheria in which antitoxin was used..... 4

Cases in which antitoxin was not used..... 0

Deaths after use of antitoxin..... 0

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive .....	7
Initial negative .....	200
Release positive .....	1
Release negative .....	11
Failed . . . . .	15
Total.....	234

*Test of Sputum for Tuberculosis.*

Initial positive .....	7
Initial negative .....	48

Total..... 55



## BUREAU OF MARKETS AND MILK.

Public market inspections.....	25
Fish market inspections.....	7
Fish peddler inspections.....	I
Rendering house inspections.....	II
Slaughter house inspections.....	6
Hide house inspections.....	I
Packing house inspections.....	I
Restaurant inspections .....	I
Milk depots inspected.....	12
Milk depots deficient.....	4
Milk wagons inspected.....	35
Milk wagons deficient.....	7
Milk houses inspected.....	59
Milk houses deficient.....	42
Dairies inspected .....	53
Dairies re-inspected .....	3
Cows examined .....	535
Cows quarantined .....	2
Cows removed .....	4
Milk cans inspected.....	79
Milk cans unclean.....	II
Lactometer readings .....	121
Below standard .....	4
Temperature tests .....	121
Below standard .....	34
Sediment tests .....	25

## MISCELLANEOUS.

Work certificates issued to children.....	31
Number of complaints of nuisances.....	94
Privy vaults .....	23
Closets .....	2
Plumbing. . . . .	16
Other miscellaneous complaints.....	53
Number of dead animals removed.....	449
Cases assigned to health physicians.....	82
Calls made .....	140

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**Medical News**

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JULY, 1914.—Number of new cases, 189; classified as follows: Dispensary patients receiving home care, 7; district cases reported by health physicians, 4; charity cases reported by other physicians, 64; moderate income patients, 88; metropolitan patients, 26; old cases still under treatment, 195; total number of cases under

nursing care during month, 384. Classification of diseases for the new cases: Medical, 26; surgical, 12; gynecological, 5; obstetrical under professional care, mothers 57, infants 57; skin, 1; infectious diseases in the medical list, 31. Disposition: Removed to hospitals, 17; deaths, 21; discharged cured, 96; improved, 41; unimproved, 11; number of patients still remaining under care, 198.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 3; nurses in attendance, 3; patients carried over from last month, 0; new patients during month, 3; patients discharged, 2; visits by head obstetrician, 0; by attending obstetrician, 1; by students, 15; by nurses, 20; total number of visits for this department, 36.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,705; for professional supervision of convalescents, 434; total number of visits, 2,139; visits to pay cases, 905; to charity cases, 800; unrecorded visits, 434; cases reported to the Guild by health physicians, and 4 other physicians, 40; graduate nurses 5, certified nurses 2, and pupil nurses 6 on duty.

*Dispensary Report.*—Number of clinics held, 78; new patients, 81; old patients, 220; total number of patients treated during month, 301. Classification of clinics held: Surgical, 13; nose and throat, 8; eye and ear, 6; skin and genito-urinary, 5; medical, 10; lung, 6; dental, 0; nervous, 5; stomach, 4; children, 13; gynecological, 8.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—At the annual meeting of the Medical Society of the County of Albany, held May 12, 1914, the following resolution was presented to the Society and passed by that body: This resolution is to take effect immediately.

"A committee of three, of whom the President shall be one, be appointed by the President, to whom all matters of medical interest for publication in the public press shall be submitted. That this committee shall have power to recommend or not the publication of such articles. That all such articles shall issue from this committee and otherwise anonymously. That publication of such article without recommendation shall, *ipso facto*, constitute unprofessional conduct of which the Board of Censors must immediately take cognizance."

A copy of the above is to be sent to each of the newspapers and its full meaning given them.

AMERICAN ROENTGEN RAY SOCIETY.—A meeting of this Society will be held in Cleveland at the Hotel Hollenden, on September 9 to 12, 1914. The program promises to be of unusual interest and value. Papers will be read by Dessauer of Frankfort, on the subject of artificial production of gamma rays; by Coolidge, the inventor of the Coolidge tube; by Shearer and by Duane. The subject of deep therapy and the production of the hard rays will be fully presented and discussed. The rest of the program will be taken up by a large number of papers on general subjects. The medical profession is cordially invited to attend these meetings.

**FREE HEALTH TEST.**—The conservation program for free examinations, chemical tests and health reports, offered to policyholders of the Equitable Life Assurance Society throughout the United States became effective on July 1. Under this plan a policyholder whose insurance has been in force for three years or longer can obtain a free examination as to his health from the Society's salaried examiners. It is believed that this will lead to the better health of the policyholders and thus to the good of the Society as a whole, since with 500,000 policyholders the addition of only six months to the average life time mean an aggregate added life time of 250,000 years.

**PHYSICIANS AND CASUALTY COMPANIES AGREE.**—After a series of conferences between representatives of casualty companies and of the Medical Society of the State of New York, a fixed schedule of charges for service to injured employees under the new compensation law has been agreed to.

**RECIPROCITY BETWEEN NEW YORK AND VIRGINIA.**—Virginia and New York have drawn up a reciprocity agreement for the mutual endorsement of each other's medical licenses, providing the applicants have complied with all the specified requirements.

**STATE HEALTH DEPARTMENT ACTIVITIES.**—The State Health Department has just sent out a special bulletin in which the sanitary code established by the Public Health Council of the State is printed in full. The Department plans to report each month the current progress along health lines in the cities and towns of the State. The annual and monthly reports of local health departments will be briefly reviewed and health officers are urged to see that the State Department receives all their publications for this purpose. Reports of all civic and philanthropic organizations dealing with the public health will also be welcome. It is also urged that the supervisors of the Department be kept informed of any happenings of unusual interest such as epidemics and new developments in administrative and educational work. There have been twelve sanitary inspectors appointed from the list certified by the Civil Service Commission and they have already entered on their duties. They are: Drs. Edward Clark, Buffalo; Frederick W. Sears, Syracuse; Harry H. Crum, Ithaca; John J. Mahoney, Jamestown; Charles S. Prest, Waterford; LeRoy W. Hubbard, Mount Vernon; John Archibald Smith, Saranac Lake; John A. Conway, Hornell; Charles C. Duryee, Schenectady, and Charles V. Pachin, Dansville.

**NEW MEMBERS OF STATE BOARDS.**—Drs. Melvin J. Stearns, Ogdensburg; Henry B. Minton, Brooklyn; Hans Zinsser, New York City; William G. Bissell, Buffalo; and Ralph H. Williams, D. O., Rochester, were appointed members of the State Board of Medical Examiners by the Board of Regents, June 25th.

Dr. William H. Park, New York City, and Dr. Herbert U. Williams,

Buffalo, have been appointed by the State Board of Regents members of the Medical Council.

AMERICAN MEDICINE GOLD MEDAL.—Dr. George W. Crile, of Cleveland, O., has been selected by the Trustees of the *American Medicine* Gold Medal as the recipient of the medal for 1914, Dr. Crile being in the judgment of the trustees the American physician who has performed the most conspicuous and noteworthy service in the domain of medicine and surgery during the past year.

PHILADELPHIA POLYCLINIC.—The following changes and additions to the staff have recently been made: Dr. Thomas B. Holloway has been elected professor of ophthalmology in succession to Dr. James Thorington, resigned, and Dr. Charles R. Hood has been appointed associate professor of ophthalmology and Dr. George S. Crampton, lecturer on refraction.

THE WORKMAN'S COMPENSATION LAW.—The Workman's Compensation Law has gone into effect in New York. It requires an employer shall provide an employee who has been injured while in his service with medical care and attendance, the Interborough Railroad Company of New York has made arrangements by which the workers on the elevated and subway lines will receive the best medical care possible. If necessary, the injured employee will be visited at his home by the company's doctor, who, if it is thought wise, will order his removal to a hospital where he will be placed in a "semi-private ward" and be permitted many liberties denied to the regular ward patients. It has also been arranged that some of the employees of the company shall be trained in first-aid work by the surgeons of the Interborough so that immediate attention can be given to an injured person.

NEW DRUG LAW.—The recently adopted act to amend the public health law of the State in relation to the sale of habit-forming drugs became effective on July 1, 1914, and physicians are advised that it is important to make immediate application to the secretary of the State Board of Health for a supply of medical order blanks for the purpose of providing themselves with morphine, codein, heroin, cocaine, etc. It is reported at the same time that the Legislature has failed to make an appropriation for the purpose of having the blanks printed.

STERILIZATION LAW KILLED.—The United States District Judge of the Southern District of Iowa, on June 24, declared unconstitutional and therefore null and void, the law passed by the last General Assembly of Iowa providing for the sterilization of certain criminals. This decision was based on the belief that the penalty was in violation of the Constitution, which provides that cruel and unusual punishment shall not be inflicted.



AMERICAN MEDICAL ASSOCIATION.—The following officers were elected at the annual meeting at Atlantic City, June 23-26, 1914: President, William L. Rodman, Philadelphia; First Vice-President, E. S. Fairchild, Kansas City, Mo.; Second Vice-President, Wisner R. Townsend, New York; Third Vice-President, Alice Hamilton, Chicago; Fourth Vice-President, William E. Darnall, Atlantic City, N. J.; Secretary, Alexander R. Craig, Chicago; Treasurer, William A. Pusey, Chicago; Trustees, Philip Marvel, Atlantic City; W. T. Sarles, Sparta, Wis.; Philip Mills Jones, San Francisco. The next meeting of the Association will be held in San Francisco in June, 1915.

HOME OF SURGERY.—At the annual meeting of the American College of Surgeons in Philadelphia on June 22d, a movement was begun for the establishment of a permanent home of surgery in Washington, for which an endowment fund of half a million dollars will be needed. More than \$100,000 was pledged by the members of the Association within an hour, and it was predicted that the fund would easily reach \$1,000,000. The College now has a membership of 3,200, having admitted 1,100 surgeons to fellowship at this meeting.

MEDICAL SOCIETY OF THE STATE OF NEW YORK, THIRD DISTRICT BRANCH.—The annual meeting of the Third District Branch of the Medical Society of the State of New York, will be held at Albany, Tuesday, September 15, 1914.

The morning will be devoted to clinics held in the amphitheater of the Albany Hospital.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.—The thirty-sixth annual Congress of the American Laryngological Association was held in Atlantic City, N. J., May 25 to 27, 1914.

The following papers were presented: "The Air We Breathe," Dr. Thomas Hubbard; "Primary Lupus of the Larynx," Dr. Emil Mayer; "Primary Sarcoma of the Trachae," Dr. J. M. Ingersoll; "Studies Regarding Anaphylactic Reactions Occurring in Horse Asthma and Allied Conditions," Dr. J. L. Goodale; "Environmental Surgery of Otolaryngology," Dr. John F. Barnhill; "Laryngocele Ventricularis," Dr. George E. Shambaugh; "The Employment of Skiagraphy in the Diagnosis of Enlargement of Thymus Gland," Dr. D. Bryson Delavan; "Nasopharyngeal Myxosarcoma; Several Operations and Finally Spontaneous Recovery, Under Observation for Twenty-seven Years," Dr. E. Fletcher Ingals; "The Simulation of Paranasal Sinus Suppurations for Teaching Purposes," Dr. Greenfield Sluder; "The Correlated Action of the Pharynx and Soft Palate and Its Effects Upon Postnasal Diagnosis," Dr. Greenfield Sluder; "Limitations of Bronchoscopy," Dr. Chevalier Jackson; "Symposium-Empyema of the Nasal Accessory Sinuses in Children Under Fourteen Years of Age," "The General Considerations of Empyema of the Nasal Accessory Sinuses in Children Under Fourteen Years of Age," Dr. Lewis A. Coffin; "The Pathology of Acute Sinusitis in Children

Under Fourteen Years of Age," Dr. George B. Wood; "The Surgical Treatment of Empyema of the Nasal Accessory Sinuses in Children Under Fourteen Years of Age," Dr. C. G. Coakley; "The Relation of the Tonsil to Thyroid Disease," Dr. Burt R. Shurly; "Laryngitis Submucosa Subglottica Acuta," Dr. Charles W. Richardson; "Recurrent Lymphomata of the Laryngopharynx-Presence of Streptococcus Hemolyticus in the Growths Excised and in the Associated Sphenothmoidal Discharge-Autogenous Vaccination-Arrest of Recurrence-Recovery," Dr. W. E. Caselberry; "The Use of Radium in Papilioma of the Larynx in Adults," Dr. F. E. Hopkins; "Report of a Case of Septic Infection of Parotid Glands," Dr. F. E. Hopkins; "The Influence of the Nose on Eye Affections as Evidenced by a Case of Bilateral Blindness and One of Unilateral Scintillating Scotoma Cured by Operations on the Ethmoid Cells," Dr. Hanau W. Loeb; "Too Optimistic Rhinology," Dr. B. A. Randall; "Intrinsic Cancer of the Larynx; Complete Excision Apparently Effected by Endolaryngeal Operation," Dr. St. Clair Thomson; "Endonasal Operation in Tumor of the Hypophysis-Report of a Case in a Female Nine Years of Age," Dr. T. H. Halstead; "Chronic Influenza of the Nose and Throat," Dr. Lorenzo B. Lockard.

THIRD INTERNATIONAL CONGRESS FOR INDUSTRIAL DISEASES.—The Third International Congress for Industrial Diseases will be held at Vienna, September 21 to 26, 1914.

TO STUDY PTOMAIN POISONING.—The Department of Public Health announces that it is very difficult to learn how prevalent ptomaine poisoning is in the city since the only opportunity the city has to study the subject is when there are a considerable number of cases and the newspapers call attention to them. The Department will welcome reports of suspected cases of bacterial food poisoning from private physicians, and if requested will gladly undertake special investigations, both epidemiologic and bacteriologic.

PLANNING A BUREAU OF PUBLIC HEALTH EDUCATION.—The Board of Health is to include a Bureau of Public Health Education as soon as a director for the Bureau has been selected through examination by the Civil Service Commission. The director, in order to qualify, must have a degree from a medical school, must have been engaged in public health work and should have some experience in editorial work. The position will pay \$5,000 a year. It is said that New York is the first municipality in the world to employ a director of public health education.

STATE HOSPITAL NEWS.—Governor Glynn has vetoed the bill providing for the abandonment of the State Hospital at Mohansic and a companion bill appropriating \$200,000 to begin a new State Hospital at another point. This hospital, which is located within forty miles of New York City, on the city watershed, had considerable difficulty with the health authorities of New York City, but finally arranged to dispose of

its sewage in a manner satisfactory to the city authorities. It is now hoped that the constructive work of this institution, which has thus been held back, will be permitted to continue. The New York State Hospital Commission is now considering the purchase of a site comprising 162 acres at Oakside, L. I., for another State Hospital. It is feared that opposition to the plan will be encountered on the part of wealthy residents of the neighborhood.

**SARATOGA SPRINGS MEDICAL SOCIETY.**—A special meeting of the Saratoga Springs Medical Society was held at the Business Men's Association Rooms on Monday, June 22, 1914, at 9 o'clock. Dr. Simon Buruch delivered an address on "Hydrotherapy."

**PERSONALS.**—Dr. WILLIAM O. STILLMAN (A. M. C. '78), Albany, sailed for London early in July and is still there.

—Dr. JOSEPH P. O'BRIEN (A. M. C. '98), Albany, has removed from 13 Walter St. to 232 Lark St., Albany.

—Dr. EDWARD S. SMITH (A. M. C. '99), has returned from Europe.

—Dr. THOMAS H. CUNNINGHAM (A. M. C. '00), Glens Falls, N. Y., has returned from an extensive tour of the clinics of Europe, ending with the Surgical Congress in London.

—Dr. MICHAEL J. THORNTON (A. M. C. '01), formerly of Albany, who has been in charge of the psychopathic ward in Bellevue Hospital, New York, for the past four years, has been appointed chief of the staff of the psychopathic ward of the Kings County Hospital by Commissioner of Public Charities Kingsbury. Dr. Thornton will take the place left vacant by the recent death of Dr. William B. Mosely.

—Dr. WARDNER D. AYER (A. M. C. '10), Rensselaer, has succeeded Dr. J. W. Cox as pathologist to the Crouse Irving Hospital, Syracuse.

—Dr. HOWARD C. MURRAY (A. M. C. '10), is engaged in active practice at Herkimer, N. Y.

—Dr. MICHAEL E. NOLAN (A. M. C. '13), is located at Eagle Bridge, N. Y.

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**DIED.**—Dr. NATHANIEL BROWN RICE (A. M. C. '54), died at his home in Chicago, Ill., June 10, aged 84.

—Dr. DANIEL V. O'LEARY (A. M. C. '60), ex-postmaster of Albany, died at his late residence, 3 Ash Grove Place, Albany, August 5, after a month's illness, aged 70.

—Dr. CHARLES J. SIMONS (A. M. C. '67), a member of the Illinois State Medical Society and a veteran of the Civil War, a practitioner of Chicago since 1868, died at his home in that city, June 18, from arteriosclerosis, aged 56.

—Dr. CHARLES S. BARNEY (A. M. C. '83), died at his home in Milford, N. Y., May 26, aged 55.

—Dr. ELMER E. FINCH (A. M. C. '86), died at his residence in Scho-dack Center, N. Y., July 12, 1914.

—Dr. JAMES H. REILLY (A. M. C. '96), died at his home in Memphis, Tenn., June 17, aged 53.

—Dr. ALFRED ROYCE BRUNDAGE (A. M. C. '90), died at his home in Chicago, July 20, aged 54.

—Dr. MILAN THERON WARD (A. M. C. '94), a Fellow of the American Medical Association, died at his home in Toulon, Ill., July 1, aged 55.

—Dr. JOHN R. DEVINE (A. M. C. '10), a Fellow of the American Medical Association and formerly a member of the Staff of the Samaritan Hospital, Troy, died at his home in Utica, N. Y., March 4, from pneumonia.

## In Memoriam

DANIEL VINCENT O'LEARY, M. D.

Dr. Daniel V. O'Leary, one of the most prominent and well known of the older physicians of Albany, died at his home in this city on August 5, 1914. He had been in failing health for some time, but the more prominent symptoms gradually developed during the last month of his life. He was fortunate in the association with his son, who had been able to relieve him of the greater burden of his practice, and for several years he had been able to relinquish his work.

Dr. O'Leary was born in Ogdensburg, N. Y., June 30, 1844, and received his education in the Ogdensburg Academy and later at the Albany Medical College, graduating from the latter in 1866. He immediately began the practice of medicine in this city, opening an office at the corner of Green and Ferry streets and later removing to South Ferry street. From there he went to 10 Ash Grove place, where he had since maintained a residence and office. He married Margaret Doud of Ogdensburg on September 12, 1878.

Dr. O'Leary was for many years district and city physician, served on the Board of Public Instruction seven years and was at one time president of the County Medical Society, of which he was always a member. He also held membership in the State Medical Society. In politics he was active and was a firm adherent of the Democratic party. On numerous occasions he was a delegate to important conventions, one of the most notable being the Democratic National Convention which named Samuel J. Tilden for the presidency in 1876. In 1885 President Grover Cleveland appointed Dr. O'Leary postmaster of Albany and he filled that position very acceptably for four years. He was a lifelong member of the Cathedral of the Immaculate Conception.

Besides Mrs. O'Leary, he is survived by three sons, Daniel Vincent, Jr., Cornelius P. and John F., also two sisters, both of whom are members of the Order of Grey Nuns, Sisters Veronica and Mary Augustine, Mother Superiors at the Convent at Lowell, Mass.



## JOHN V. HENNESSY, M. D.

Dr. John V. Hennessy of Albany died suddenly at his home on July 13, 1914.

Dr. Hennessy was born in New York, September 21, 1854, the son of Thomas A. and Margaret McKinley Hennessy. The family moved to Rensselaer when he was about four years of age and there he lived until his graduation from the Albany Medical College in 1884. He has since lived in Albany.

Dr. Hennessy married Sarah Elizabeth Kane, the daughter of Mr. and Mrs. John Kane of Amsterdam, soon after his graduation. At this time also began his connection with St. Peter's Hospital, with which institution he was connected until recently and in the development of which he took an active part. At one time Dr. Hennessy was a lecturer upon materia medica at the Albany Medical College, but withdrew from this work a few years before his death. At the time of his death he was secretary of the State Commission for the Feeble-Minded.

Besides his wife, he is survived by several brothers and sisters, Ambrose Hennessy of Albany, Mrs. Nathan Jarvis of New York, George H. Chambers of Philadelphia, Dr. Frank A. Hennessy of Notthof, Cal., and Joseph A. Hennessy of Philadelphia.

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CHARLES GARTNER, M. D.

Dr. Charles Gartner, an alumnus of the Albany Medical College of the Class of 1895, died at his home in Brooklyn, N. Y., July 25, 1914, after an attack of heart disease of three weeks' duration. Dr. Gartner was born in Hoosick Falls, N. Y., May 1, 1870, and after graduation from the Albany Medical College began practice in Brooklyn, first taking the lying-in course at the New York Lying-in Hospital. He entered at once upon an active career, and was esteemed as a successful practitioner.

Dr. Gartner was a member of the Phi Sigma Kappa fraternity; the Brooklyn Medical Society; the Kings County Medical Society; Merchants' Lodge No. 709, F. & A. M.; DeWitt Clinton Chapter, No. 142, R. A. M.; DeWitt Clinton Commandery, No. 27, K. T., and Kismet Temple, Mystic Shrine.

Dr. Gartner is survived by his widow, Mrs. Katherine E. Gartner, a sister, Mrs. Charles E. Patterson, of Brooklyn, and a brother, Frederick C. Gartner of Troy, N. Y.

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## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*Epidemic Cerebrospinal Meningitis.* By ABRAHAM SOPHIAN, M. D., formerly with New York Research Laboratory. Twenty-three illustrations. St. Louis: C. V. Mosby Company, 1913.

This monograph is based upon work done by the author in the New York Research Laboratory and in Texas during the epidemic of 1912, on

the one hand upon the laboratory and on the other upon the clinical side of the disease.

Its purpose, in the words of the author, "is to convey a thorough yet simple description of the clinical and laboratory findings in the disease and to so interpret the laboratory descriptions as to familiarize the reader with their application in treatment and in clinical analysis of the disease."

It is divided into chapters dealing respectively with the Etiology, Symptomatology, Laboratory Diagnosis of Meningitis, Complications, Studies on Blood-Pressure in Meningitis, and Treatment.

The text is most detailed in its treatment of all the subject-matter and is frequently illustrated with case histories and temperature charts. Other illustrative tables, diagrams, and photographs are frequently inserted.

The work of other workers and authors is frequently mentioned or discussed, but unfortunately the exact references of the articles are not given.

The book as a whole can be highly recommended as an excellent and very detailed discussion of the entire subject of epidemic meningitis.

C. K. W., JR.

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*Applied Bacteriology for Nurses.* By CHARLES F. BOLDUAN, M. D., Assistant to the General Medical Officer, Department of Health, City of New York, and MARIE GRUND, M. D., Bacteriologist, Department of Health, City of New York. 12mo. of 166 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$1.25 net.

This volume will find ready acceptance not only by nurses, but also by members of the medical profession. The contents embrace all the important fundamental facts concerning the life of pathogenic organisms. Chapters are devoted to bacteria commonly encountered, such as bacteria of typhoid fever, diphtheria, and tuberculosis, and emphasis is laid on the mode of transmission of infection. The book includes a brief review of animal parasites and of the less common micro-organisms. A discussion of immunity, of the exanthemata, and of the filterable viruses help make the volume complete. The book is well written, the style is pleasing, and its conciseness makes it very acceptable.

H. S. B.

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*Ten Sex Talks to Boys* (ten years and older). By IRVING DAVID STEINHARDT, M. D. Published by J. B. Lippincott Company.

This little book that sells for one dollar has the special virtue of accuracy, so evidently lacking in many of the vast number of publications that at present are inflicted upon the semi-professional public in the field of sex education.

The twelve illustrations serve their purpose well, and the descriptive

portions of the text are clear cut, although from a pedagogical standpoint the diction is not suited for many children under fifteen years of age. The author probably believes, and wisely so, that the young child can best be reached through the parent who should find material for instruction prepared for him in the pages of this little book.

Ten review questions at the close of each talk serve to emphasize the chief features of the subject.

So many writers in this field are trained only upon the social, spiritual or educational sides of the question, and therefore write with little understanding of the practical medical aspects of these problems. Dr. Steinhart, a surgeon and pediatricist, has fortunately dealt with the subject from all viewpoints.

It is a wholesome sign when well-trained medical men contribute to the literature of some of the biological, moral and economic problems with which organized society is to-day so vitally concerned. C. P. M.

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*The Elements of Bacteriological Technique.* By J. W. H. EYRE, M. D., Director of the Bacteriological Department of Guy's Hospital, London. Second edition, rewritten and enlarged. Octavo of 518 pages, with 219 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$3 net.

This book will prove indispensable to laboratory men. Its chapters are devoted to bacteriological methods and to the use of apparatus in connection with such work. It will doubtless fulfill the hopes of the author, for he intends the book to reach "the isolated workers in laboratories far removed from centers of instruction, reminding them of forgotten details in methods already acquired."

H. S. B.

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*International Clinics.* A Quarterly of illustrated Clinical Lectures specially prepared original articles on Treatment, Medicine, Surgery, etc., and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia. Vol. 1, 24th Series, 1914; price \$2. J. B. Lippincott Company.

While this volume contains several original articles on Treatment, Therapeutics, Medicine and Surgery, yet the emphasis is placed upon "The Progress of Medicine During the Year 1913," by Henry W. Cattell. Considerable space is given to the report of the "Carnegie Foundation for Advancement of Teaching," dealing with the subject of the overcrowding of the profession as influenced by "higher" standards of medical education. The writer goes on to cite the "Condition of the Medical Profession in Austria" and in the "Specialties and the General Practitioner." The synopsis of the history of the American College of

Surgeons occupies considerable attention. The writer cites an article from the *California State Journal of Medicine* in its issue of August, 1913, this criticism of the College of Surgeons being other than a favorable one.

There are a very few physicians personally interested in the United States Income Tax, yet for the benefit of the small minority a section is devoted to the keeping of accounts by members of the profession in order to enable them with greater facility to compute the amount of their annual tax.

There are many other subjects touched upon, too numerous to mention, which adds to the interest and value of the volume, thereby constituting an up-to-date epitome of last year's progress. H. D. C.

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*Muller's Serodiagnostic Methods.* By ROSS C. WHITMAN, B. A., M. D., Professor of Pathology, University of Colorado School of Medicine. Authorized translation from the third edition. One hundred and forty-three pages with seven illustrations in text. J. B. Lippincott Company: Philadelphia and London, 1913.

This small hand-book contains detailed information concerning serodiagnostic methods. It is quite comprehensive in its scope, dealing with precipitin, agglutination, and bactericidal reactions, and with complement fixation tests for syphilis and gonorrhoea. Serological methods for the diagnosis of cancer, including the meiostagmin reaction, and for the diagnosis of tuberculosis are also given. The value of the book lies not only in the tabulation of necessary reagents and apparatus, but also in the descriptive technique for each test. The tone of the book, however, is one of optimism; for not all the methods contained therein have as yet received general acceptance or confirmation. To laboratory workers, the book will recommend itself as a helpful guide to possibilities in research.

H. S. B.

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*Clinical Hematology: An Introduction to the Clinical Study of the So-called Blood Diseases and of Allied Disorders.* By GORDON R. WARD, M. D., Fellow of the Royal Society of Medicine, Medical Society of London, etc. Octavo of 394 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.50 net.

The author's avowed purpose in this work is to emphasize the clinical study of the so-called blood diseases, which he feels has been allowed to fall into the background, as a result of the more widespread investigation of the purely pathological aspect of these problems.

He presents a rather arbitrary classification of the subject which includes the diseases of, the blood-forming organs, the circulating blood, blood formation and blood destruction. The author quite fairly admits



that a scientific classification is, in the light of our present pathological knowledge, impossible, but he finds it desirable to make use of an arbitrary outline in his painstaking comprehensive study of diagnosis and treatment.

The second chapter is devoted to the physiology of the blood forming organs, the blood and its cells. The third chapter deals with the technique of making a complete blood examination. Then in succession are presented Lymphaemia, Myelaemia, Hodgkin's Disease, Multiple Myeloma, Splenic Anaemia of Adults, Erythraemia Aplastic Anaemia, Cholaemia, Addisonian Anaemia, Hemochromatosis, Chlorosis, Hemophilia, Purpura, etc.

Each disease is carefully and fully discussed in systematic order with regard to its etiology, pathology, symptoms, course, complications, diagnosis and treatment. Symptomatology is fully presented, the various organs and systems of the body being reviewed. The author's opinion as to the relative frequency of certain symptoms or complexes would be enhanced in value, could he have cited actual percentage figures from his own series of cases or from those reported in the literature. There has been no attempt made to present a bibliography, nor are there any references to the literature—points which one would not expect to find in a purely clinical treatise.

The last chapter but one is given over to the accepted methods of treatment, including transfusion, x-rays, and the administration of arsenic and iron. No mention is made of splenectomy in the treatment of pernicious anaemia, a discussion of which would be most acceptable in view of the recent reports in the current medical journals.

The book shows no originality in illustrations. Some excellent borrowed photographs of clinical cases appear. The photomicrographs have not reproduced over well in some instances. Figure 19, supposed to represent the blood of Myelogenous leukaemia, is so poor that one can not distinguish the types of cells and a second diagrammatic figure is appended explaining it.

In summary one accords commendation to the author for his elaboration of the clinical side of his subject, but raises the question as to how large is the field for a book of this type.

L. W. G.

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### SURGICAL PATHOLOGY.

Edited by George E. Beilby, M. D.

*Natural Immunity of Animals Against Poison of Intestinal Obstruction.*

DAVID M. DAVIS and HAROLD S. MORGAN. *Johns Hopkins Hospital Bulletin*, February, 1914, Vol. XXV, No. 276, Page 39.

This present article is the result of an investigation into certain phenomena that have been noted during the course of experiments in intestinal obstruction performed at the Hunterian Laboratory of Experimental Pathology of the Johns Hopkins University. It was found that cats are

very resistant to the effect of the toxic material formed in the closed intestinal loops and after a very long series of experiments the authors give the following summary of their findings.

Cats will survive two to six days after the production of closed duodenal loops, often dying of peritonitis.

The contents of these loops after heating and filtration, will kill dogs, when injected intravenously, with the same symptoms and anatomical picture seen when dog loop contents are used.

Cats are resistant to this toxic material, withstanding with ease doses of over twice as much per gram of body weight, as is necessary to kill dogs.

Efforts to neutralize the toxic of duodenal loop contents by incubation with cat organ extracts, cat blood, and cat serum, have been unsuccessful.

Rabbits and guinea pigs are much less suitable for testing the toxicity of intestinal fluids than dogs, owing to their great susceptibility to hurtful influences of all sorts.

Cats are also less suitable for the same purpose than dogs owing to their high natural immunity against closed loop toxin.

The last two considerations must receive careful attention in drawing conclusions from any set of experiments dealing with the poisons of intestinal obstruction.

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#### *Intestinal Obstruction Formation and Absorption of Toxin.*

DAVID M. DAVIS. *Bulletin of The Johns Hopkins Hospital*, February, 1914, Vol. XXV, Page 33. No. 276.

The author recalls that there have been propounded three principal theories to explain the death which occurs when the gut is obstructed: first, that of a nervous reflex; second, that of infection, and third, that of intoxication. Davis is of the opinion that the recent work of Whipple, Stone and Bernheim at Johns Hopkins has proven that a strong toxic factor is at work in these cases and that death may occur without any infection of the peritoneum or blood. It has been demonstrated that by immunizing dogs with sublethal doses of the toxic contents of closed duodenal loops it was possible for the dogs to remain alive with closed duodenal loops over a length of time entirely unknown with unimmunized animals. Davis believes that these experiments leave no doubt that a toxin found in the intestinal contents is responsible for a great part at least of the symptoms occurring in uncomplicated ileus.

The point about which discussion still goes on is that of the origin of this toxin, and the author reviews the work of various authors as bearing upon this phase of the subject, and carries on a long series of experiments from which he is finally able to draw the following conclusions:

The duodenal and upper jejunal mucosa, unaided by bacterial action, and in conditions not far removed from normal, can produce a highly toxic substance, and although phenosulphonephthalein is readily absorbed by the normal mucosa of the small intestine, this toxic substance is not.

In closed loops one deals with a mucosa which displays nothing more

than a slight hyperaemia, sometimes not even that. Injuries from handling are negligible, and absence of normal secretions from above is readily excluded as a cause of the mischief. Loop contents themselves in concentrated form will not stimulate absorption of toxin from the lumen in a freshly made loop. It seems clear, then, that some condition existing in closed loops causes slight but important functional changes in the mucosa, resulting in fatal toxæmia. But further investigation of the details of this change must be made.

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#### *The Blood-Picture in Hodgkin's Disease.*

C. H. BUNTING. *Bulletin of The Johns Hopkins Hospital*, June, 1914, Vol. XXV, No. 280, Page 173.

Bunting has been able to study the blood picture in twenty-five cases of Hodgkin's disease in which the diagnosis had been established by the histological examination of a test gland. The study of the blood in these cases has shown, as indicated by tabulated results, that there is a deviation from the normal leukocytic picture in all cases, but that there is not a single constant picture found in them. Instead, it is possible to divide the cases into two distinct groups according to the differential count of the leukocytes. The first group, including cases of a year or less in duration, shows a normal or slightly increased total leukocyte count with a normal or decreased percentage of polymorphonuclear neutrophiles. The second group includes the cases of greater duration for the most part, and shows a smart leukocytosis, running in one case (as far as could be determined from the smear ratio of one white cell to twenty-nine red cells), to at least 100,000 leukocytes per centimeter. This leukocytosis is accompanied by an increase of the neutrophiles to a percentage between seventy-two and ninety—a percentage ordinarily considered of value in diagnosing a suppurative process in the body, yet occurring in Hodgkin's disease in the complete absence of pus formation.

Throughout the disease there are two constant features, an increase in blood platelets and an absolute increase in the transitional leukocytes. In regard to the other elements, in early cases there is a transitory increase in lymphocytes and basophiles, and a deficiency in eosinophiles, with a normal or low neutrophile count, followed by a gradual decrease in lymphocytes and a moderate eosinophilia. In late cases there is a marked neutrophile leukocytosis and a diminution in percentage of all other elements except the transitional leukocyte.

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#### *Hodgkin's Disease.*

C. H. BUNTING. *Bulletin of The Johns Hopkins Hospital*, June, 1914, Vol. XXV, No. 280, Page 177.

Bunting's interest in Hodgkin's disease dates from a series of experiments performed in the laboratory of Dr. Flexner at the University of Pennsylvania in 1903. His experiments at this time led him to develop

a working theory as to the pathogenesis of Hodgkin's disease which he still holds though in a modified form.

His conception of the disease was that the changes in the lymph glands were due to the filtration through them of a toxic elaborated at some primary focus of infection, and were in consequence entirely of a secondary nature—an end-result. In brief, he believes that in Hodgkin's disease there is a primary group of glands which for a considerable length of time protects the body from the toxic elaborated by the infectious agent.

The author studied the material from twenty-eight cases of Hodgkin's disease, and study of these cases from a pathological standpoint has strengthened his conviction that the lesion of Hodgkin's disease is essentially of inflammatory nature.

In summarizing, the author holds that Hodgkin's disease is an infectious disease due to a diphtheroid organism, the *Bacterium Hodgkini*. There may often be found a primary lesion at the portal of entry. While in some cases the organisms may remain for a long time localized in the vicinity of the portal of entry, in other cases they early gain entrance into the general circulation, and may be widely distributed. The organism and its toxin show a special affinity for lymphoid tissue, and produce in this characteristic changes of Hodgkin's disease, changes varying somewhat according to the intensity of the toxin, but resulting ultimately in the sclerosis of the glands. There is at the same time an interglandular inflammatory process, at times very acute, but resulting finally in a dense sclerotic tissue. There are also characteristic blood changes in the disease.

The glandular changes can then be considered only as the result of a toxic action, and contribute to the patient's death merely incidentally, when certain gland groups are extensively enlarged. The cells of the enlarged glands, though atypical, show none of the antagonism to the other body cells characteristic of malignant neoplasma.



# ALBANY MEDICAL ANNALS

## Original Communications

### THE CORTICAL CONNECTIONS OF THE RED NUCLEUS.

*Read at the Annual Meeting of the American Neurological Association  
held at Albany, N. Y., May 7, 8 and 9, 1914.*

By LASALLE ARCHAMBAULT, M. D.,

*Adjunct Professor of Neurology in the Albany Medical College, Albany, N. Y.*

If it may rightfully be claimed that we possess to-day abundant and accurate data regarding the fibre-tracts which unite the red nucleus with the cerebellum, the bulb and the spinal cord, it is equally proper to admit that we still know but little concerning the cortical connections of that nucleus. This is undoubtedly due to the fact that this particular chapter of nervous anatomy has been singularly neglected. A mere glance over the literature suffices indeed to reveal the extreme scantiness of available information on this important subject. While it is true, in a general way, that the majority of anatomists have long ago assumed the existence of a rubro-cortical fibre-system, or at least admitted the probability of such a tract, it is only very recently that some of them have consented to furnish us with a more definite conception of it.

The first observation on record, in which a degenerative atrophy of the red nucleus was noted in connection with a lesion of the cerebral hemisphere, is that published in 1883 by Witkowski.<sup>1</sup> In this case the lesion, which dated from infancy, was far too extensive to be of any service in establishing the cortical localization of the red nucleus.

Somewhat later, von Monakow<sup>2</sup> published three cases in which lesions, of limited extent and strictly confined to the cerebral hemisphere, had determined a well-marked trophy of the red nucleus. In this initial contribution, however, von Monakow

1. Witkowski: Beitrag zur Pathologie des Gehirns Archiv. für Psych. XIV, 1883.

2. von Monakow: Experimentelle und pathol. anat. Untersuchungen über die Haubenregion, den Sehhügel und die Regio Subthal. etc. Archiv. für Psych. Bd. XXVII 1895,

did not arrive at very definite conclusions regarding the exact nature and distribution of the degenerative changes which he had observed.

From that time on further observations of a similar type were reported by Mahaim,<sup>3</sup> Hösel, von Bechterew, Flechsig, and others. In the majority of these instances, a marked atrophy of the red nucleus was observed in connection with very vast lesions of the cerebral hemisphere mostly congenital in origin (porencephaly, old patches of softening and haemorrhagic foci, developmental anomalies). Up to a few years ago, the number of such cases which had been reported was not only insignificant, but the details pertaining to histological changes and particularly to the structural alterations of the nerve-cells were far too meagre and contradictory to permit any attempt at formulating a definite doctrine regarding the rubro-cortical neuron.

One of the first to express a firm opinion on this complex question was Déjerine.<sup>4</sup> This author, whose admirable textbook of anatomy is based upon the minute and conscientious study of an exceptionally large number of cortical and sub-cortical lesions, had occasion to observe, in several of his cases, well-marked degenerative changes in the red nucleus. Although the area of involvement in these cases was too considerable to legitimate formal deductions, Déjerine nevertheless allowed himself to reason by exclusion and to postulate the following precept relative to the rubro-cortical path. "The cortical radiations of the red nucleus originate essentially from the cortex of the parietal lobe. They probably occupy the superior portion of the posterior segment of the corona radiata and the thalamic portion of the retro-lenticular segment of the internal capsule. They reach the optic thalamus above the radiations of the internal geniculate body, pass in front of the deeply imbedded portion of this body, then curve mesially, contribute to the formation of the tegmental field and finally radiate into the antero-supero-external portion of the red nucleus. These fibres represent an important link of the cerebro-cerebellar fibre-system and constitute the cortico-rubral neuron."

This conception of the cortico-rubral tract rests upon the data furnished by two cases, the lesions of which are manifestly too

3. Mahaim: Ein Fall von sek. Erkrankung des Thalamus Optic. und der Regio-Subthal. *Archiv. für Psych.* XXV, 1893.

4. Déjerine: *Anatomie des Centres Nerveux*, Tome II, p. 72, Paris, 1901.

extensive to justify the author's contentions. In both of these cases, indeed, the patches of softening, far from being limited to the parietal lobe, widely invade the corona radiata of the temporal lobe by interrupting the deep sagittal layers which course along the lateral wall of the sphenoidal horn. It is difficult to understand how such an excellent observer as Déjerine could have been led to ignore the temporal lesion entirely and to incriminate only the parietal lesion in accounting for the degenerative reaction which he observed in the red nucleus. Moreover, it is noteworthy that in another case published by the same author, the lesion is strictly limited to the parietal lobe but no mention is made of secondary degeneration in connection with the red nucleus.

Shortly after Déjerine, Mingazzini<sup>5</sup> made known the results of his extensive laboratory investigations relative to the more important fibre-tracts of the central nervous system. This author's publications were based partly upon experimental researches and partly upon the study of secondary degeneration in the brain of man. In the few cases in which Mingazzini observed a well-defined degenerative reaction of the red nucleus, the lesions involved either the parietal or the frontal lobe, or both of these lobes at the same time, or else the temporal lobe. The causative lesions were represented by haemorrhagic cysts, patches of softening and lobar sclerosis. The reaction observed in the red nucleus in these several instances was characterized by a more or less generalized atrophy of this nucleus, the volume of which was sometimes tremendously reduced, as well as by a very marked rarefaction of the lateral peri-capsular field of fibres. According to Mingazzini, this atrophic reaction of the red nucleus is to be attributed rather to the degeneration of its central medullary substance than to the disappearance of the cell-groups occupying its marginal zones.

Up to the present time the only significant and scientific data which we have acquired regarding the cortical connections of the red nucleus are those which we owe to von Monakow.<sup>6</sup> Very

5. Mingazzini: (1) *Experimentelle und pathologisch-anatomische Untersuchungen über den Verlauf einigen Nervenbahnen des Zentralnervensystems*. Monatschrift für Psych. und Neurol. XV, 1904.

(2) *Sul decorso delle vie cerebro-cerebellari nell'uomo*. Rivisto di Patologia nervosa e mentale. 1908, Vol. XIII, Fasc. 10, 433-452.

6. von Monakow: *Der rote Kern, die Haube und die Regio subthalamica bei einigen Säugetieren und beim Menschen*.

I. Teil: Anatomisches und Experimentelles.

II. Teil: Pathologisch-anatomische Untersuchungen am Menschen. Arbeiten aus dem Hirnanatomischen Institut in Zurich; Hefte III, u. IV. 1909 and 1910.



recently indeed this author has brought forth a series of documents of the very highest order and of exceptional value. The work of von Monakow is based partly upon the results obtained from animal experimentation, partly upon the study of secondary degeneration in a considerable number of cortical and sub-cortical lesions observed in the human subject. While the author's researches concern all the connections of the red nucleus, cerebellar and bulbo-spinal as well as thalamic and cortical, the purpose of the present contribution obliges us to restrict ourselves to the consideration of those documents which affect the cortical relations of the red nucleus.

The ideas expressed by von Monakow regarding the origin and the course of the cortico-rubral tract rest upon the data furnished by the study of twenty cases of cortical and sub-cortical lesions. While the extent of involvement varies greatly in these different cases, all exhibit a strictly cerebral topography and in no case are the basal ganglia implicated.

The lesions encountered by the author include microgyria and lobar sclerosis, porencephaly, traumatic and non-traumatic hemorrhagic cysts, old foci of encephalomalacia, sarcoma of the dura and other types of cerebral neoplasm.

As regards the actual topography of the lesions in these various cases, we are anxious to reproduce here very accurately the author's own statements. The lesions involved, in three of these cases, the frontal lobe (F 1, F 2 and F 3), in four, the domain of the central convolutions including the opercular region; in four others, the parietal convolutions (particularly the angular and the supramarginal gyri); in still four others, the occipital convolutions (calcarine area and O<sub>1</sub> to O<sub>3</sub>); in two, the temporal lobe (T<sub>1</sub> to T<sub>3</sub>) and temporo-occipital region; in the remaining cases, the lesions involved practically the whole of one hemisphere.

In only ten of these twenty cases was a definite degeneration of the red nucleus manifest. Thus we have a positive and a negative series of ten cases. In three instances belonging to the positive series, the lesions were situated in the frontal lobe; in four, they occupied the region of the central convolutions and the operculum; in the remaining three, the greater extent of the hemispherical surface was involved. In the other series of ten cases representing the negative group and characterized by



absolute integrity of the red nucleus, the lesions were strictly limited either to the occipital lobe, the parietal lobe, or the temporal lobe. The conclusion naturally to be drawn from the findings in these various cases is that the red nucleus receives fibres exclusively from the frontal lobe and from the operculo-central region, and that the other regions of the brain, namely the parietal, occipital, temporal and limbic lobes, take no part whatever in the constitution of the cortico-rubral path.

von Monakow further insists upon the fact that the fibres derived from the frontal lobe and those derived from the operculo-central region form two separate tracts; not only do these fasciculi originate from perfectly distinct areas of the cortex, but they pursue a different course and come into relation with entirely different segments of the red nucleus and with distinct cell-groups. He thus describes a fronto-rubral tract and an operculo-rubral tract.

The autonomy of the fronto-rubral tract rests upon the degenerative reaction observed in two cases in which the greater portion of the second and third frontal convolutions was destroyed by old patches of softening. The secondary degeneration occupied the anterior limb of the internal capsule, where it involved the frontal cortico-pontine tract, and extended to the optic thalamus (anterior tubercle, anterior ventral nucleus and median nucleus) to the subthalamic region and to the anterior or frontal capsule as well as to the substance proper of the red nucleus. As regards the latter nucleus, the degenerative process implicated particularly its anterior or frontal third, and to a lesser extent its middle third; the most striking degenerative changes were found in the dorso-mesial marginal zone of gray matter where the molecular substance was markedly reduced and the cellular columns rarefied.

In establishing the individuality of the operculo-rubral tract, von Monakow was guided by his findings in four cases of softening involving the rolandic area and the opercular region. While the lesions varied somewhat in actual extent and severity in these different cases, a feature common to all of them was the marked implication of the base of the third frontal convolution. The author naturally regards the latter territory as the main source of origin of this second fasciculus, hence the designation "operculo-rubral tract" which he has given to it. In

these cases the secondary degeneration could be followed across the posterior limb of the internal capsule and through the dorsal layer of Forel's zone (field H<sub>1</sub> of Forel) to the optic thalamus and to the red nucleus. In the optic thalamus the degeneration involved particularly the nuclear masses occupying the inferior or ventral segment of this ganglion. The degeneration reached the red nucleus by coursing through its lateral peri-capsular field of fibres, and while it determined a more or less generalized atrophy of this nucleus, the most severe degenerative phenomena were observed in its middle third. In this instance, the ventro-lateral marginal zone of gray matter was particularly affected and the changes consisted mainly in a rarefaction of the molecular substance and in a well marked degenerative atrophy of different cell-groups.

The concluding considerations of von Monakow's remarkable work regarding the cortical connections of the red nucleus may be summarized as follows:

The only regions of the cerebral hemisphere which send fibres to the red nucleus are (a) the prefrontal lobe, the anterior convexity of the second and third frontal convolutions in particular, and (b) the operculo-central region, which area may possibly include the paracentral lobule.

The fronto-rubral tract takes its origin from the anterior convexity of the prefrontal lobe, more particularly from the second and third frontal convolutions, traverses the anterior limb of the internal capsule, enters into the constitution of the mesial portion of the lamina medullaris externa and of the frontal capsule of the red nucleus and terminates in the anterior half of this nucleus. Its constituent fibres are destined particularly to the gray matter of the mesial and dorso-mesial marginal zones where they enter into relation with the substantia molecularis and with the cellular elements of lesser volume. It is possible that the larger cellular elements of these same regions of the red nucleus send their axones in the opposite direction, *i. e.*, towards the prefrontal cortex. At any rate, it seems to be pretty well established that the fronto-rubral tract is re-enforced by a certain number of thalamo-rubral fibres derived from the mesial nucleus, the centrum medianum and the reticular zone of the optic thalamus.

The operculo-rubral tract originates from the cortex mainly

of the opercular segment of the rolandic area (including the base of the third frontal convolution), traverses the posterior limb of the internal capsule, courses through the lateral portion of the lamina medullaris externa and through the dorsal layer of Forel's field (field  $H_1$ ) to enter into the constitution of the lateral capsular zone of the red nucleus. The operculo-rubral fibres then penetrate into the middle segment (middle third) of this nucleus and terminate in the reticular gray matter of its lateral and central zones. Here again the cortical fibres are related mainly to the substantia molecularis. The existence of fibres coursing in the opposite direction, *i. e.*, of rubro-opercular fibres, while extremely probable, has not yet been demonstrated. The operculo-rubral tract is re-enforced by thalamo-rubral fibres derived from the ventral nuclei and the reticular zone of the optic thalamus and perhaps also from the zona incerta of the subthalamic region.

The field of fibres which more or less completely surrounds the red nucleus, forming for it a veritable peri-capsular limiting zone (Haubenstrahlung of Flechsig), contains fibres of varied derivation, a considerable number of which however originate in the cerebral cortex. The anterior or frontal peri-capsular field is formed mainly by fibres which unite the red nucleus with the lamina medullaris externa, the median nucleus of the optic thalamus and the prefrontal lobe (fronto-rubral fibres). These same fibres contribute to the formation of the anterior third of the dorsal and mesial peri-capsular zones. The anterior portion of the ventro-lateral peri-capsular zone is formed in great part by those fibres which originate in the cortex of the opercular region (operculo-rubral fibres) and in the ventral nucleus of the optic thalamus.

Our personal investigations regarding the cortical connections of the red nucleus were inspired by a degenerative reaction incidentally observed several years ago in the course of our researches upon the origin and functional character of the inferior longitudinal bundle. Among the several cases which were utilized for that work, one presented the particularly advantageous feature of exhibiting almost purely cortical lesions. In that case, a patch of softening of long standing occupied the posterior two-thirds of the third temporal convolution and the corresponding portion of the fusiform lobule; the lesion was practically limited

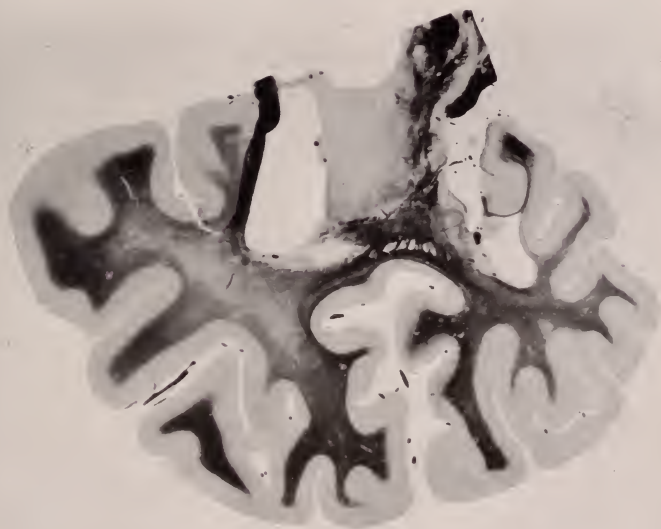


to the cortex and the immediately subcortical white matter except at one point, where a linear extension penetrated more deeply and slightly involved the subventricular segment of the external sagittal layer. Aside from its important bearing upon the course of the geniculocalcarine tract, the lesion of this case had the additional merit of having determined a very well-defined though limited degeneration of the red nucleus. The degenerative sclerosis could be followed to the postero-external capsular segment of this nucleus and likewise invaded its posterior and postero-median marginal zones of gray matter. Since that time we have systematically sought to obtain lesions having about the same topography as this one, and have succeeded in gathering six cases of softening involving the infero-internal border of the cerebral hemisphere, more particularly, the gyrus hippocampus and the lingual and fusiform lobules. All of these cases have been studied by means of serial sections stained according to the Weigert-Pal method and all have yielded corroborative results. In fact, a secondary degeneration of the red nucleus was observed every time that the gyrus hippocampus and the fusiform lobule were the seat of lesion, and the intensity of the degenerative reaction was directly proportionate to the extent of involvement of these two convolutions. On the other hand, when the lesions were mainly occipital in their topography and extended only a short distance into the temporal cortex, the degeneration observed in the red nucleus was insignificant. Being impressed with the necessity of ascertaining the behavior of the red nucleus towards lesions occupying other regions of the cerebral hemisphere, we have likewise subjected to study two cases of softening involving essentially the frontal lobe, and in addition to this, we have carefully reinspected the serial sections of all the cases which had previously served for our publications on the inferior longitudinal bundle and the geniculocalcarine tract. This last series of cases comprises ten instances of softening involving a greater or lesser area of the cortical domain irrigated by the terminal branches of the sylvian artery. Thus, our personal data regarding the cortical connections of the red nucleus are based upon the examination of a series of eighteen cases of cerebral softening.

In four of these cases, the lesions involve the first and second temporal convolutions and the supramarginal and angular gyri;



To Illustrate Dr. Archambault's Article on "Cortical Connections of the Red Nucleus"  
*Albany Medical Annals, October, 1914*



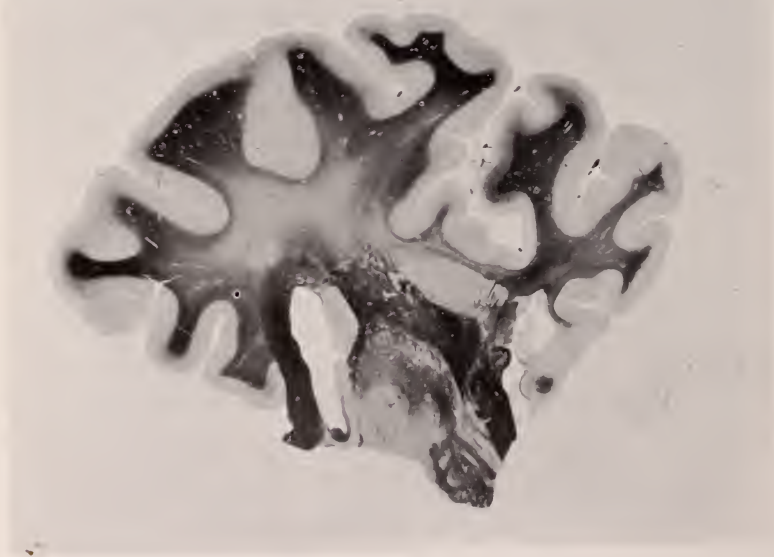
A.



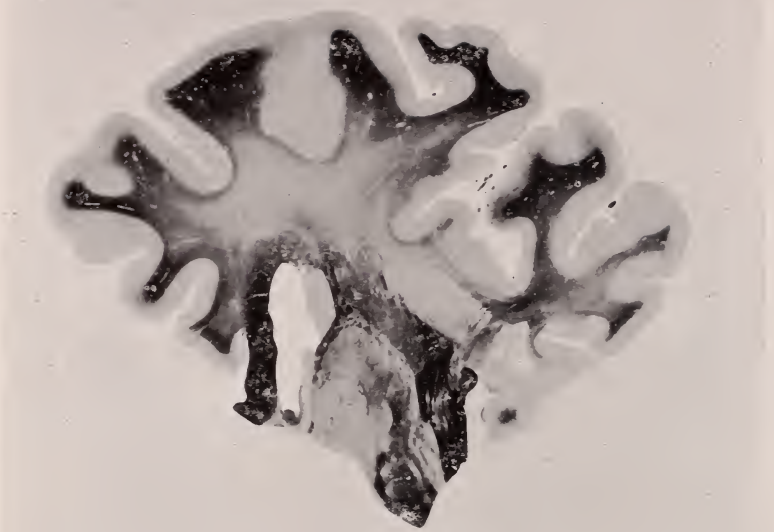
B.

PLATE I.

To Illustrate Dr. Archambault's Article on "Cortical Connections of the Red Nucleus"  
*Albany Medical Annals, October, 1914*



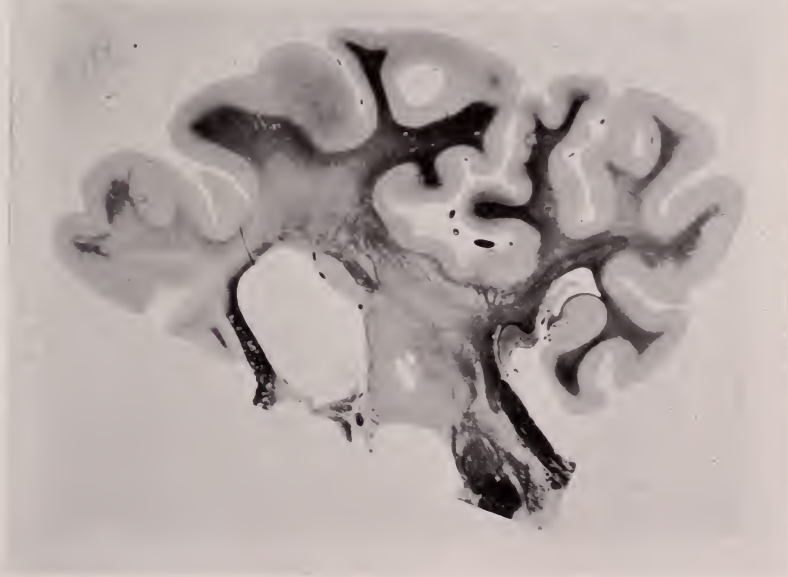
C.



D.

PLATE II.

To Illustrate Dr. Archambault's Article on "Cortical Connections of the Red Nucleus"  
*Albany Medical Annals, October, 1914*



E.



F.

PLATE III.

To Illustrate Dr. Archambault's Article on "Cortical Connections of the Red Nucleus"

*Albany Medical Annals, October, 1914*



G.

PLATE IV.

H.



in two others, they have an analogous topography posteriorly, but extend anteriorly to the island of Reil and to the base of the third frontal convolution. In two cases, a patch of softening is limited to the first and second temporal convolutions; in two others, to the occipital convolutions. In five cases, the lesions occupy the infero-internal surface of the temporo-occipital lobe and destroy mainly the gyrus hippocampus and the fusiform lobule. In one case, the focus is strictly confined to the supramarginal and angular gyri; in another, to the base of the third frontal convolution and the adjoining portion of the ascending frontal convolution. In one case, finally, a patch of softening occupies the domain irrigated by the anterior cerebral artery and involves the superior frontal convolution, the paracentral lobule and the gyrus fornicatus.

Of these various localizations of cerebral softening, three only have given rise to a definite degeneration of the red nucleus, namely those involving (a) the infero-internal surface of the temporal lobe, (b) the frontal lobe, and (c) the operculo-central region (base of the third frontal convolution, island of Reil and adjacent portion of the rolandic convolutions). Lesions limited to the occipital lobe or to the parietal lobe do not determine a secondary degeneration of the red nucleus. As regards lesions involving the lateral convexity of the temporal lobe, they do not react upon the red nucleus unless they extend deeply and widely invade the sagittal layers coursing along the lower segment of the lateral ventricular wall, in which event they naturally sever the fibres derived from the mesial cortex of the temporal lobe.

From among the cases which have been examined especially with reference to the cortical connections of the red nucleus, we have chosen those which seem to us particularly interesting and demonstrative and shall now pursue a more detailed analysis of the data which they have furnished.

#### CASE I. (Pl. I.)

Patch of softening involving the infero-internal surface of the left temporo-occipital lobe. The lesion extends from the tip of the occipital lobe to a point situated in the same vertical plane as the posterior border of the pulvinar of the optic thalamus. It destroys the superior portion of the first occipital convolution, the greater part of the cuneus and the lingual lobule, the occipital segment of the fusiform lobule and the posterior portion of the gyrus hippocampus. At the level of the descending horn of the lateral ventricle, the focus occupies the median segment of

the fusiform lobule, the gyrus hippocampus and the smaller annectant gyri which unite these convolutions with the neighboring cortex. Above, it extends along the mesial ventricular wall and encroaches upon the posterior pillar of the fornix and the inferior portion of the splenium of the corpus callosum.

There likewise exists in this case a central focus of softening in the corpus striatum. This second lesion is compassed by two vertical planes: the posterior plane passes immediately behind the external geniculate body, and the anterior traverses the frontal pole of the corpus subthalamicum. The maximum extent of this focus is best seen on sections passing through the middle portion of the red nucleus (Pl. I, Fig. B). At this level, the lesion extends in an oblique direction from the supero-external angle of the body of the lateral ventricle to the inferior portion of the external capsule; it thus completely severs the base of the corona radiata and destroys the superior third of the lenticular nucleus. It will be seen at once that this lesion intercepts the majority of projection fibres coming from the corresponding portions of the gyrus fornicatus, the paracentral lobule, the rolandic convolutions and the superior lobule of the island of Reil. Finally, on sections traversing the globus pallidus, a diminutive focus of softening was detected in the substance proper of the callosal commissure; this focus can only be followed over a limited number of microscopic sections, but nevertheless slightly involves the overlying white matter of the gyrus fornicatus.

The first section illustrating this case (Pl. I, Fig. A) passes through the external and internal geniculate bodies and through the posterior extremity of the red nucleus. The softening of the temporo-occipital region has determined a very severe grade of secondary degenerative sclerosis which involves both association and projection fibre-systems. A well-marked discoloration is indeed clearly noticeable in the subcortical white matter of the median portion of the temporal lobe, particularly in the domain of the cingulum. As regards the deep sagittal layers, they are diffusely degenerated, but the most striking feature observed is the enormous retrograde atrophy of the external sagittal layer. The tapetum, on the contrary, is relatively intact. The degeneration of the deep sagittal layers can be followed directly into the sublenticular segment of the internal capsule as well as into Wernicke's field and the adjacent area belonging to Arnold's temporo-thalamic fasciculus. The intense discoloration of this entire region is too evident to be further emphasized. While the external geniculate body is markedly degenerated and atrophied, the internal geniculate body seems perfectly normal. Above the geniculate bodies, a delicate strand of degenerative sclerosis is plainly visible; it emerges from the superior portion of Wernicke's field, and, coursing horizontally inward, becomes lost near the lateral border of the red nucleus. While the deep-staining qualities of this series of sections may tend to mask some of these details in the photographic reproduction, the very marked discoloration of the dorso-mesial gray zone of the red nucleus is nevertheless readily appreciable. Moreover,

this nucleus presents a fairly definite atrophy as well as a generalized irregularity of contour. We are of the opinion that, at this level, the degenerative reaction of the red nucleus results essentially from the patch of softening involving the temporo-occipital region. As regards the secondary degeneration determined by the central lesion occupying the superior portion of the retrolenticular internal capsule, it can already be followed to the optic thalamus where it has occasioned an atrophic distortion of the superior border of this ganglion as well as a diffuse discoloration of its lateral nucleus and stratum zonale. The implication of the corona radiata is responsible for the relative pallor of the deep substance of the gyrus fornicatus and the superior marginal convolutions. The practically complete degeneration of the body of the fornix results from the direct involvement of its posterior pillar at the level of the descending horn of the lateral ventricle.

The following section (Pl. I, Fig. B) passes through the anterior extremity of the external geniculate body and somewhat behind the middle plane of the red nucleus. At this level, the various areas of degeneration are not only more pronounced, but likewise more sharply defined. The massive discoloration of the territory embracing Wernicke's field and the temporo-thalamic bundle is most striking, and, from the superior portion of this domain, a degenerated band may be followed through the internal capsule as far as the lateral boundary of the red nucleus. This linear area of degeneration is particularly distinct in the lateral pericapsular zone of the red nucleus, of which it constitutes in reality the inferior segment. Immediately outside of the red nucleus, the degenerated fasciculus seems to undergo an unequal bifurcation, the greater number of degenerated fibres ascending along the lateral border of this nucleus to radiate into the marginal zones of its superior portion, the lesser number coursing downward and mesially to join the ventro-lateral capsule of the red nucleus. There can be no question that at this point, the superior third of the red nucleus is totally deprived of medullated nerve-fibres, or, in other words, that there exists a very marked degeneration of the dorsal and dorso-mesial marginal zones of gray matter. The ventro-lateral zone, on the contrary, is but slightly involved. It is more than probable that, at this level, the degeneration of the red nucleus is in great part determined by the lenticulo-capsular lesion, which lesion undoubtedly severs a considerable number of radiations derived from the ascending frontal and ascending parietal convolutions. This same lesion is responsible for the sclerosis of the adjoining portion of the internal capsule, for the degeneration of the lamina medullaris externa, the stratum zonale, the lateral nucleus and the superior border of the optic thalamus, and for the widespread discoloration of the deep substance of the parietal lobe. A few diminutive foci of softening in the supero-internal quadrant of the optic thalamus may have served to accentuate the atrophy of the superior segment of this ganglion. The body of the fornix remains totally degenerated.



## CASE II. (Pl. II.)

Extensive patch of softening occupying the infero-internal border of the right cerebral hemisphere and involving particularly the lingual lobule, the fusiform lobule and the gyrus hippocampus. The lesion extends all the way from the tip of the occipital lobe to a point falling in the same vertical plane as the anterior border of the red nucleus. In the occipital lobe, the focus destroys the greater part of the lingual and fusiform lobules as well as the bottom and lower lip of the calcarine fissure, but respects the cuneus almost entirely. In the temporal lobe the lesion occupies all of the anterior or temporal segment of the fusiform lobule and the corresponding portion of the gyrus hippocampus. Thus we have to do with an area of softening which destroys completely the lingual and fusiform lobules and the posterior two-thirds of the gyrus hippocampus. There are no other lesions in this case save a very small focus of central softening situated in the deep white matter of the parietal lobe near the base of the corona radiata. This focus is visible on sections passing through the external geniculate body and the posterior third of the red nucleus (Pl. II, Fig. C).

The first section belonging to this series (Pl. II, Fig. C) passes slightly in advance of the posterior extremity of the red nucleus. The temporal lesion has produced an apparent fusion of the two convolutions which it involves. The small focus of the parietal corona radiata presents at this level its maximum development and is in no wise responsible for the striking pallor of the surrounding deep white matter. This widespread discoloration is to be accounted for simply by the fact that the tissues of this case did not harden gratefully in Müller's fluid. Wishing to compensate for this defect we allowed the sections themselves to remain a considerable length of time in Müller's fluid, but while we have succeeded in improving their staining reaction everywhere except in the parietal region, it is also true that the degenerative areas are correspondingly masked. Thus, in the temporal lobe, the degeneration of the sagittal layers and the deep white matter is hard to detect. Just without the external geniculate body, however, the fairly marked degeneration of Arnold's temporo-thalamic fasciculus is readily ascertainable. From this region a slender strand of degeneration may be followed across the internal capsule towards the lateral peri-capsular field of the red nucleus. This degenerated bundle seems to terminate in part in the substantia nigra where a short rod-like field of absolute sclerosis can be distinctly seen just within the crus cerebri. The degeneration further extends to the red nucleus which it enters through the supero-external segment of its limiting capsule. From this point the degenerated fibres radiate into the dorsal, dorso-mesial and ventro-lateral marginal zones of gray matter, all of which exhibit a very decided degree of discoloration. At this level, the optic thalamus offers but faint evidence of secondary degeneration; all that can be said is that the lateral nucleus is slightly and very diffusely degenerated. At more posterior levels, however, and corresponding to the caudal extremity of this ganglion, a very pronounced



degenerative atrophy involves the pulvinar and the median nucleus, as well as the anterior corpus quadrigeminum and the external geniculate body.

The second section (Pl. II, Fig. D) traverses the red nucleus near the junction of its middle and posterior thirds. The partial rarefaction of the lateral peri-capsular field of the red nucleus is still visible but the most prominent degenerative changes are to be seen within this nucleus itself. At this point, the degenerated area presents as a sharply defined and almost colorless hemicycle occupying the entire lateral sub-capsular marginal zone of the red nucleus. The discoloration of the dorso-mesial zone is far less distinct than on the previous section. On the contrary, the degeneration of Arnold's temporo-thalamic fasciculus is still very evident, and the transversely directed area of degeneration which separates the internal capsule from the crus cerebri has become rather more extensive. The other details of the section have not changed materially save that the lateral portion of the body of the fornix seems to be partly degenerated.

#### CASE III. (Pl. III.)

Extensive area of softening occupying the cortical domain irrigated by the right anterior cerebral artery. The lesion involves the precuneus, the paracentral lobule, the posterior two-thirds of the superior frontal convolution and the major portion of the gyrus fornicatus. Despite this considerable extent in the sagittal direction, the lesion is pretty strictly confined to the subcortical substance of the mesial hemispherical surface. Somewhat in advance of a vertical plane passing through the anterior commissure, the focus of softening destroys more widely the gyrus fornicatus and even perforates the corpus callosum almost to the ependymal lining of the roof of the lateral ventricle. The body and the anterior horn of this ventricle are markedly dilated as is also the third ventricle. Aside from miliary areas of softening in the optic thalamus, there are no other lesions to be found in this case. The degenerative reaction observed in the red nucleus involves its anterior two-thirds only; the posterior third being practically normal.

The first section (Pl. III, Fig. E) is taken approximately at the junction of the posterior and middle thirds of the red nucleus. By reason of its localization within the subcortex of the calloso-marginal sulcus, the lesion severs all the fibres derived from the paracentral lobule and the gyrus fornicatus and produces widespread degenerative reactions. The secondary degeneration involves the lateral segment of the corpus callosum, the sagittal layers of the corona radiata and the entire vertical extent of the internal capsule. There likewise exists a fairly pronounced discoloration of the deep white matter of the parietal lobe and of the external capsule. In the optic thalamus, there is a very evident atrophy of the superior border of this ganglion, and a well-marked degeneration of the lamina medullaris externa, the stratum zonale and the superior portion of the lateral nucleus. The relatively large lacunar focus occupying

the center of the optic thalamus may be partly responsible, however, for these degenerative changes. As the proximity of the red nucleus is reached, one notes the very marked rarefaction of the field of fibres which borders upon its lateral segment. As regards this nucleus itself, it exhibits a very intense and sharply delimited degenerative sclerosis of its dorso-lateral marginal zone and a much less pronounced degeneration of its ventro-lateral zone. The body of the lateral ventricle is appreciably dilated and the lateral portion of the right half of the fornix is somewhat degenerated. The temporal lobe is relatively normal.

The following section (Pl. III, Fig. F), taken at a slightly anterior level, traverses the same structures and presents practically the same features save that the degenerative reaction of the red nucleus is far more extensive and severe. It is clearly to be seen, indeed, that the degenerated area occupies the whole mesial segment of the lateral peri-capsular field of the red nucleus and that it extends to the lateral capsule as well as to the dorso-lateral marginal zone of this nucleus. The degeneration of the parietal corona radiata and the adjoining deep white matter is still fairly pronounced and the sclerosis of the internal capsule is fully as intense as before. In the optic thalamus the degeneration is even more striking and involves with particular severity the anterior tubercle and the lateral nucleus.

#### CASE IV. (Pl. IV.)

Relatively recent area of softening destroying mainly the base of the left inferior frontal convolution, but involving likewise the deep substance of the neighboring convolutions. As viewed from the external surface of the hemisphere, this focus seems to limit itself pretty strictly to the posterior extremity of the inferior frontal convolution and to encroach but very slightly upon the cortex of the adjoining portion of the ascending frontal convolution. A vertical section carried through the actual focus shows, however, that in reality the lesion extends upward and inward towards the supero-external angle of the lateral ventricle and that it severs almost completely the base of the parietal corona radiata. At this point, in fact, the softening occupies the deep substance of the base of the second frontal convolution and necessarily intercepts the projection fibres coming from the first frontal convolution and from the gyrus fornicatus. Posteriorly, the lesion involves, by means of rather superficial extensions, the cortex of the inferior portion of the ascending frontal convolution and even extends a short distance into the cortex of the ascending parietal convolution. The temporo-sphenoidal lobe and the basal ganglia are absolutely intact. While the lesion of this case was not one of long standing, it nevertheless determined a fairly definite degenerative reaction in the posterior half of the red nucleus.

The first section of this case (Pl. IV, Fig. G) crosses the red nucleus at a point almost equidistant from its anterior and posterior poles. The discoloration of the superior segment of this nucleus is distinct though not very prominent. The degeneration involves mainly the dorsal cap-

sule and the dorso-lateral marginal zone of the red nucleus, but spares almost entirely, at this level, the field of fibres situated along its lateral border. In the cortex and subcortical white matter of the ascending parietal convolution may be seen the posterior limit of the focus of softening. This lesion has produced a partial discoloration of the deep substance of both the parietal and the temporal lobes as well as of the external capsule. As regards the internal capsule, it presents a sharply focalized degeneration of the inferior third of its posterior limb. The degeneration slightly involves the lamina medullaris externa and the lateral nucleus of the optic thalamus.

The second section (Pl. IV, Fig. H) brings into view the external and internal geniculate bodies and traverses the posterior third of the red nucleus. Although the sections are deeply-stained, a well-defined area of degeneration is plainly visible in the dorso-lateral marginal zone of the red nucleus. The partial implication of the dorso-mesial zone, on the contrary, escapes observation. At this level, the rarefaction of the superior portion of the lateral peri-capsular field of the red nucleus is fairly distinct. The degenerative sclerosis of the internal capsule is still well-marked, but the optic thalamus has practically regained a normal aspect. The intense discoloration and atrophy of the infero-internal border of the external geniculate body result apparently from the severe vascular changes involving the proximal portion of the pia mater. Sections passing through the anterior third of the red nucleus exhibit practically no abnormal features, save a diffuse and relatively slight rarefaction of the central medullary substance of this nucleus. The frontal capsule of the red nucleus is perfectly free.

We have just completed the necessarily summary description of four cases, the lesions of which have determined a definite degenerative reaction in the red nucleus. This nucleus has been found to degenerate in lesions involving either the infero-internal surface of the temporo-occipital lobe, the supero-internal surface of the fronto-parietal lobe, or the operculo-central region. Our first two observations prove conclusively that, contrarily to the view held by von Monakow, temporal localizations do compromise the integrity of the red nucleus. Be it reiterated in this connection, however, that we refer to lesions involving the median surface of the temporal lobe, the fusiform lobule and the gyrus hippocampus in particular. As was previously stated, lesions occupying the convexity of the temporal lobe do not react upon the red nucleus unless they extend deeply, and sever, beneath the ventricular wall, the fibres derived from the mesial cortex of the temporal lobe. As regards patches of softening limited to the occipital lobe or to the posterior portion of the



parietal lobe, we concur fully with von Monakow in maintaining that they do not determine any appreciable degeneration of the red nucleus. We likewise share the opinion of this author regarding the very different significance of centro-opercular localizations; our last case demonstrates indeed that lesions strictly confined to this area are followed by very definite changes in the red nucleus. Concerning the behavior of the red nucleus in cases of softening involving the pole of the frontal lobe, the anterior convexity of the second and third frontal convolutions in particular, which region, it will be remembered, corresponds to one of von Monakow's cortical representation-zones of the red nucleus, we regret that we are unable to submit any conclusive data, inasmuch as we have not had the opportunity of studying lesions having strictly this topography. It is true that in our third observation, the area of softening destroys the greater part of the superior frontal convolution, the gyrus fornicatus and the paracentral lobule, and that in this case the degeneration of the red nucleus is exceptionally well-defined. According to von Monakow, however, this very region, with the possible exception of the paracentral lobule, is to be excluded from the cortical domain related to the red nucleus.

Thus, if we are able, on the one hand, to bring forth personal documents which may serve to strengthen the teaching of von Monakow regarding the existence of definite relations between the red nucleus and the operculo-central region, we must, on the other hand, differ materially from this author when he maintains that the other regions of the cerebral hemisphere, with the exception of the frontal pole, take no part whatever in the constitution of the cortico-rubral fibre-system. From our own personal investigations, we believe that the red nucleus receives cortical radiations from different portions of the cerebral hemisphere, and have been able to ascertain that some of these radiations originate from the mesial surface of the temporal lobe, others from the mesial surface of the fronto-parietal lobe, and still others from the operculo-central region. We would not venture to state that the red nucleus does not receive any fibres from the rest of the cerebral cortex, although we are ready to affirm that this nucleus presented no manifest degenerative changes whenever the lesions were strictly confined to the occipital lobe or to the posterior portion of the parietal lobe.



When we come to describe the course followed by the cortical radiations of the red nucleus, we find ourselves face to face with an exceptionally delicate and difficult problem, being given that those lesions which produce degenerative changes in the red nucleus likewise determine the secondary degeneration of a large number of projection-fibres destined to other basal ganglia. Thus, in lesions of the infero-internal surface of the temporo-occipital lobe, degenerative sclerosis involves the postero-inferior thalamic radiations and the radiations of the anterior colliculus as well as the radiations of the red nucleus. All of these fibres are intimately intermingled in the internal sagittal layer of the temporo-occipital corona radiata. Nevertheless, we have been able to satisfy ourselves that the majority of the temporal radiations of the red nucleus follow practically the same course as the thalamic radiations derived from the infero-internal border of the hemisphere; that is to say, they accompany the latter fibres in their long ventral détour beyond the anterior extremity of the sphenoidal horn and then curve backward towards the inferior portion of the pulvinar of the optic thalamus. In other words, the temporal cortico-rubral fibres enter into the constitution of Arnold's temporo-thalamic fasciculus, course through the sub-lenticular segment of the internal capsule and enter the superior portion of Wernicke's field. From this point, the degeneration can be followed to different structures according to the extent of involvement of the mesial surface of the temporo-occipital lobe. In general, we find that the pulvinar, the postero-inferior segment of the optic thalamus and the anterior colliculus are all more or less severely implicated, but in addition to this we likewise find a definite degenerative reaction in the postero-superior segment of the red nucleus. The area of degeneration reaches this nucleus at its supero-external angle after having traversed the tegmental field of Forel (Haubenstrahlung of Flechsig). The degeneration then extends to the superior or dorsal capsule of the red nucleus and finally disappears within its dorsal and dorso-mesial marginal zones of gray matter. As a rule, the degenerative reaction determined by lesions of the median surface of the temporo-occipital lobe involves the posterior half of the red nucleus, but is particularly well-marked in its posterior third, where, as above stated, the dorsal and dorso-mesial marginal zones exhibit the most striking changes. As the middle

vertical plane of the red nucleus is approached, however, it is not uncommon to find that while the dorsal zones still present the maximum degree of degeneration, the ventro-lateral zone is likewise implicated and sometimes decidedly so. The anterior third of the red nucleus usually remains perfectly intact although a more or less distinct rarefaction of the central medullary substance is not infrequently observed.

In lesions occupying the mesial surface of the fronto-parietal lobe (superior frontal convolution, gyrus fornicatus, paracentral lobule) the secondary degenerative sclerosis reaches the basal ganglia through the fronto-parietal corona radiata and through the anterior limb and the antero-superior segment of the posterior limb of the internal capsule. The degeneration then extends in part to the nuclei of the optic thalamus and in part to the red nucleus. In the optic thalamus, the structures most severely involved are the lamina medullaris externa, the stratum zonale, the superior portion of the lateral nucleus, the anterior tubercle, as well as the other nuclei occupying the superior border of this ganglion. As regards the red nucleus, the degenerative process involves particularly its anterior two-thirds and spares almost entirely its posterior third. The degenerated fibres approach this nucleus by coursing through the lamina medullaris externa and through the dorsal layer of Forel's field (Hi of Forel) until they reach the mesial segment of the lateral pericapsular zone of the red nucleus (tegmental field of Forel). From this point, the degenerative sclerosis spreads to the lateral capsule of the red nucleus and eventually disappears within its dorso-lateral and dorso-mesial marginal zones of gray matter. Here again, it frequently happens that the ventro-lateral marginal zone is appreciably involved, especially towards the equatorial plane of the red nucleus. Usually, the anterior or frontal capsule of this nucleus is markedly degenerated.

When the area of softening involves the operculo-central region, that is to say, the sylvian and rolandic opercula, the island of Reil and the proximal portions of the ascending convolutions, the degenerative sclerosis traverses the lenticulo-thalamic segment or posterior limb of the internal capsule in order to reach the basal ganglia and the cerebral peduncle. In these cases, we observe regularly a well-marked degeneration of the lamina medullaris externa, the stratum zonale and the lateral nucleus

of the optic thalamus, as well as a definite degeneration of the posterior two-thirds of the red nucleus. In this instance again, the area of degeneration reaches the latter nucleus through the lamina medullaris externa and through the dorsal layer of Forel's field. From this point, the degeneration extends to the dorso-lateral capsule of the red nucleus and then invades its marginal zones of gray matter. In the posterior third of this nucleus, the dorso-lateral and dorso-mesial marginal zones are particularly affected, whereas, towards the middle third, the most striking degenerative changes are to be found in the dorso-lateral and ventro-lateral marginal zones. The anterior third and the frontal capsule of the red nucleus generally appear perfectly normal.

Thus, to summarize our personal observations regarding secondary degeneration of the red nucleus in cases of cerebral softening, we may say that the degenerative reaction exhibited by this nucleus varies in its topography according to the seat of the causative lesion.

Lesions of the infero-internal surface of the temporo-occipital lobe determine degenerative changes in the posterior two-thirds of the red nucleus, but more particularly in its posterior third. In the latter situation, the degenerative sclerosis involves the dorsal capsule as well as the dorsal and dorso-mesial marginal zones of gray matter; at the level of the middle third, it involves mainly the dorsal and ventro-lateral marginal zones.

Lesions of the supero-internal border of the fronto-parietal lobe produce a degenerative reaction in the anterior two-thirds of the red nucleus. At the level of the anterior third, the degenerative sclerosis involves the frontal capsule as well as the dorso-mesial and dorso-lateral marginal zones of gray matter; at the level of the middle third, it involves the lateral capsule and extends to the dorso-lateral and ventro-lateral marginal zones.

Lesions of the operculo-central region react upon the posterior two-thirds of the red nucleus, but more especially upon its middle third. At the latter level the degenerative sclerosis involves the lateral capsule as well as the dorso-lateral and ventro-lateral marginal zones of gray matter, whereas, at the level of the posterior third, it involves the dorsal capsule and the dorso-mesial and dorso-lateral marginal zones.

As regards the histologic character of the secondary degenerative reaction observed in the red nucleus, we have endeavored to



ascertain it as far as possible by staining the exceptionally thin sections of each series with haematoxylin-eosin and also according to the van Gieson method. While the histologic picture naturally did not compare, in point of significance, with that obtained when the tissues are specially hardened and treated for the exclusive study of cellular lesions, we were nevertheless able to identify with relative facility most of the degenerative changes already described by von Monakow. In fact, we found, in the red nucleus, areas of degeneration which correspond absolutely in their topography with the sclerotic zones observed in the Weigert-Pal sections. These areas take a diffuse homogeneous stain and no longer exhibit the delicate striation found in the normal portions of the red nucleus as they are almost totally devoid of nerve-fibres. The molecular substance is markedly reduced in amount and the majority of the smaller nerve-cells have disappeared; on this account the larger ganglionic cellular elements appear more closely approximated than in the normal state and are themselves more or less atrophied and deformed. A well-characterized compensatory neuroglial hyperplasia is found throughout the areas of degeneration and there is likewise a fairly definite proliferation of blood-vessels.

Before terminating this article, it seems desirable to call attention to the possible clinical significance of our anatomic findings. We are inclined to believe that a better knowledge of the cortical connections of the red nucleus might prove of considerable service in elucidating the pathogeny of certain motor disorders such as epileptiform seizures, choreiform and athetoid manifestations, post-hemiplegic tremor, etc. Convulsive attacks, particularly of the Jacksonian type, are not uncommon in lesions of the mesial surface of the temporal lobe; we have personally encountered three instances of this kind. Moreover, hemi-athetosis and hemi-chorea have repeatedly been attributed to lesions situated in the proximity of the lenticular nucleus, along the lateral border of the posterior half of the optic thalamus (Charcot and Raymond), or even within the postero-inferior segment of this ganglion. These localizations appear to us all the more interesting because we have just seen that the red nucleus receives fibres from the mesial convolutions of the temporal lobe and that these fibres course through the sublenticular segment of the internal capsule and through the postero-inferior portion of the



optic thalamus. Very recently, Pierre Marie and J. Lhermitte<sup>7</sup> published a series of cases of chronic progressive chorea, in which they found cortical lesions pretty strictly limited to the pole of the frontal lobe and involving more especially the anterior extremity of the second and third frontal convolutions, that is to say, exactly the cortical domain from which arises the fronto-rubral tract described by von Monakow. It is true that in certain cases of hemi-chorea and hemi-athetosis lesions have been found either in the superior cerebellar peduncle (Bonhöffer), or in the subthalamic region and the adjoining portion of the tegmentum. It is therefore evident that in these various disorders of motility the seat of lesion may be extremely variable, but it is equally true nevertheless that all of these localizations present one feature in common, namely, that of compromising the integrity either of the cerebral or of the cerebellar connections of the red nucleus. There can be no question that the red nucleus plays an important part in the physiologic mechanism of motility. It is well known in fact that this nucleus is connected, on the one hand, with the motor nuclei of the bulb and the anterior horn cells of the spinal cord (rubro-bulbar and rubro-spinal tracts), and, on the other hand, with the cortex of the rolandic area (operculo-rubral tract). It would therefore seem perfectly logical to suppose that under normal circumstances the mechanism of motor functions is subject to the coordinate influence of two fibre-systems which are essentially distinct primarily; one, the cortico-rubro-spinal system, which is concerned with the purely reflex or automatic manifestations of motility, the other, the cortico-spinal or pyramidal system, acquired much later in the course of development, and the function of which is to exert a regulating or inhibitory influence and at the same time to transmit volitional motor impulses. It cannot be denied that at birth, the majority of our movements are purely reflex or automatic in character, inasmuch as the nerve-fibres derived from the cerebral cortex are still for the most part inadequately provided with myelin-sheaths and hence probably inactive physiologically. It is therefore fair to assume that primarily the motor functions are controlled essentially by the infracortical ganglia and more especially perhaps by the red nucleus. It is only later that these ganglia themselves become subsidiaries of cortical centres and that their activities are gov-

7. Pierre Marie et J. Lhermitte; Les lésions de la chorée chronique progressive. *Annals de Médecine*, 1914, Janvier, No. 1, p. 18.

erned and regulated by volitional impulses. Little by little automatism is superseded by conscious and voluntary operations and its manifestations are held more and more in abeyance as the development of the higher intellectual attributes becomes more perfect and as the cerebral cortex presides more fully over our various activities. Thus the cortical areas gradually become transformed into functionally active spheres which exert a preponderant influence upon the mechanism of motility; they serve to regulate the automatic function of the infracortical motor centres but they do not supplant them entirely. On the contrary, careful clinical observation shows pretty conclusively that motion remains throughout life strictly dependent upon the joint activity of cortical and subcortical centres, in other words, that it is a composite function exhibiting partly automatic and partly volitional characters. Any lesion which interferes with the normal transmission of cortical impulses to the infracortical motor centres will favor the development of automatic motor manifestations. As was previously stated, the lesions which have thus far been encountered in the majority of cases of hemi-chorea, hemi-athetosis, post-hemiplegic tremor, etc., despite the diversity of their distribution, were nevertheless situated along the course of some one or other of the various afferent fibre-tracts of the red nucleus. Hence, it is possible that in the genesis of these various motor disorders, the lesion acts by stimulating to over-activity, either directly or indirectly, the purely automatic mechanism of the red nucleus and its efferent channels. The varying clinical aspect of the resulting motor disturbance might possibly be explained by differences in the seat as well as in the actual nature of the causative lesion, and perhaps also by differences in the degree of implication of the connections of the red nucleus. It seems perfectly legitimate indeed to suppose that the physiognomy of the symptom may vary considerably according to the seat of the lesion, inasmuch as the associated involvement of some other tract or fibre-system cannot well be dismissed from consideration, and, naturally, the identity of this tract will not be the same at all levels. Moreover, it must be admitted that these various manifestations of disordered motility are perhaps not so distinctive from one another as they may seem *a priori*. Between the convulsive attack, the passive type of tremor, the athetoid movement and the choreiform manifestation, there are many points of close resemblance, many analogies,

and it is not particularly uncommon to see patients whose motor disorders exhibit the features of both chorea and athetosis either at the same time or in succession.

Of course it would be premature to attempt to solve as difficult a problem as this merely from the data furnished by a few anatomic investigations. It is very probable indeed that the development of such varied motor disorders is dependent upon the simultaneous influence of several pathogenic factors. It is readily admitted also that these disturbances do not appear every time that the cerebral or cerebellar connections of the red nucleus are compromised. All that we can say, is that they are more apt to be associated with very superficial lesions of the cortex or with diminutive foci situated in the basal ganglia. We also know that these disorders never develop unless the function of the cortico-spinal or pyramidal tract is at least partly preserved. Thus, we have not the pretention of formulating a doctrine at this time, but it does seem important to call attention to the necessity of exploring more fully the various connections of the red nucleus.

#### CONCLUSIONS.

The red nucleus receives cortical radiations from different regions of the cerebral hemisphere. Some of these radiations originate in the frontal lobe, others in the operculo-central region, and still others in the mesial convolutions of the temporal lobe.

The fibres derived from the frontal lobe reach the red nucleus through the anterior limb of the internal capsule and through the subthalamic region. They terminate in the anterior segment of the red nucleus and are related more particularly to its dorso-mesial and dorso-lateral marginal zones of gray matter.

The fibres derived from the operculo-central region reach the red nucleus through the posterior limb of the internal capsule and through the tegmental field of Forel. They terminate essentially in the middle segment of the red nucleus and are related to its dorso-lateral and ventro-lateral marginal zones of gray matter.

The fibres derived from the mesial surface of the temporal lobe reach the red nucleus through the sublenticular division of the internal capsule and through Wernicke's field. They terminate in the posterior segment of the red nucleus and are related more particularly to its dorso-mesial and dorso-lateral marginal zones of gray matter.

## THE USE OF NORMAL HORSE SERUM FOR THE PREVENTION OF HEMORRHAGE IN NOSE AND THROAT OPERATIONS.

A SERIES OF EXPERIMENTS AS TO THE COAGULATION TIME OF THE BLOOD, BEFORE AND AFTER INJECTIONS OF THE SERUM.

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and

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For several years the writers have been using injections of blood serum for the control of hemorrhage in nose and throat operations.

In a paper published in the *Annals of Otology, Rhinology and Laryngology*,<sup>1</sup> a series of cases of hemorrhage after tonsillectomy and other operations were reported in which after other methods failed, the bleeding could be absolutely controlled by the use of the serum. In all the cases reported at that time, the serum was not used until the hemorrhage had already started. In the series of cases on which this paper is based, the blood serum was used before operating, when we expected to have an unusual amount of bleeding.

Weil,<sup>2</sup> whose researches in hemophilia were so largely responsible for the present status of serum therapy in this disease, reported in 1907 a series of four cases treated with serum.

In one of his cases a polyarthrititis with rapidly developing subcutaneous hemorrhages, epistaxes and hematuria, the patient was given an intravenous injection of 15 cubic centimetres of fresh beef serum, and was cured.

The most complete of the more recent papers on this subject is that of Goldstein.<sup>3</sup> The following details were carried out by Goldstein in each case: Within twenty-four hours previous to the time of operation, (1) a physical examination of the patient was made; (2) the systolic and diastolic blood-pressure test recorded; (3) the hemoglobin per cent noted; (4) the coagulation time ascertained of blood obtained from the lobe of the ear; (5) where the time-limit of the coagulation exceeded seven minutes a hyperdermic injection of 10 cubic centimetres of normal, sterile horse-serum was given; (6) in each case where the



serum injection was made, the coagulability of the blood was again tested just prior to the time of operation.

In practically every case the coagulation time was reduced after injection of the serum from one, to two and one-half, and even three minutes.

In the writer's cases, the serum injections were given irrespective of the coagulation time before operating. They were given when we expected, from a history of severe cases of hemorrhage in the patient's family or of severe spontaneous hemorrhages in the patient, an unusual amount of bleeding after operating.

It has been recognized that the coagulation principle of the blood is dependent on the action of thrombin, the so-called fibrin ferment.

Voegtlin and Macht<sup>4</sup> however, have isolated from the blood and the adrenal cortex, a new vaso-constrictor substance, and it is quite possible that the action of the serum in controlling and preventing bleeding is due to this agent.

This powerful vaso-constrictor substance was extracted from the blood in the following way: Defibrinated blood serum of oxen and pigs was treated with dehydrated powdered sodium phosphate or sodium sulphate. The dry mass was pulverized and extracted with water-free chloroform. This chloroform extract was evaporated to dryness and then treated with absolute methyl alcohol. On evaporation, a white crystalline residue was obtained, very sparingly soluble in water, but freely soluble in chloroform, acetone, hot ethyl alcohol and other organic solvents. Study of the action of this substance on the blood-vessels of cold and warm-blooded animals and on the heart, led to extremely interesting observations. It was found that it was a powerful vaso-constricting agent, a minute quantity (1/300 mg.), producing a marked and long-lasting (over an hour) constriction of the vessels of a frog's hind legs.

By exactly the same method as the authors isolated the substance from ox's and pig's blood, they extracted a similar substance from human blood-serum. It was found that the quantity of extract corresponding to 1 cubic centimetre of human-serum diluted with 500 cubic centimetres of Locke's solution, was sufficient to produce a very marked constriction of the rabbit's blood-vessels, which showed that the substance must be present in quite an appreciable amount in normal blood.

Their work on this subject, and the isolation of the crystalline substance already described, together with a study of its chemical, physical and physiologic properties, justifies them in regarding it as a substance with a pharmacologic action different from epinephrin or from any other body hitherto obtained from the blood.

While they have not yet been able to isolate enough material for a complete chemical analysis, all the observations so far made on the physical and chemical properties of the body, seem to point to its relation to cholesterin on the one hand, and to the cortex of the adrenal gland on the other.

That this substance may be of considerable clinical importance is not unlikely, in view of the observations of Gubar, who noted that the vaso-constricting properties of blood-serum vary in different pathologic conditions, being increased in nephritis, for instance, and diminished in others.

It was shown in the foregoing that it is possible to isolate from the blood of man and other mammals, a substance the nature and properties of which compel the authors to regard it as a lipid and closely related to cholesterin.

For a long time it has been known that blood-serum and the defibrinated blood of different animals exert a vaso-constricting action on blood vessels.

It was formerly considered that this vaso-constrictor effect was due to epinephrin.

It has been proved however by O'Connor<sup>5</sup> and others, that systemic blood, with the exception of the blood from the adrenal veins, does not contain epinephrin.

O'Connor first suspected that there must be another vaso-constricting substance in the blood.

In our own observations, the coagulation time was estimated by the coagulometer of Russel and Brodie, as modified by Boggs. The apparatus consists of a moist chamber with a glass bottom which can be placed upon the stage of a microscope, while the upper surface is a truncated cone of glass projecting downward into the moist chamber. The lower surface of this is 4 millimeters in diameter, and on it is placed a drop of blood, care being taken that the drop only just covers the surface, hence it is always of the same size.

The glass is then quickly fitted into the moist chamber. Through the side of the chamber projects a fine tube, through

which by means of a bulb, a gentle stream of air can be directed against the blood. With the low power of the microscope, the cells are then watched while being agitated, until they are seen to move in clumps.

As little blowing and at as long intervals as possible should be done. The corpuscles will at first move freely and independently of one another, then in clumps at the periphery. As the process of coagulation continues, the masses of corpuscles will no longer move in the drop, but the drop changes shape *en masse*, the corpuscles showing first an elastic concentric motion and finally an elastic radial motion; that is, the current of air will cause the masses of corpuscles to move toward the centre, and to quickly spring back to their original position when the current of air ceases. This is taken as the end point and indicates coagulation. Using this instrument, Slader working with Emerson, found the normal end point to vary from three to eight minutes, an average of five minutes and six seconds.

Of the series of cases in which injections of serum were given, only eight will be reported. We had reason to believe in all these there was a decided tendency to bleeding, in fact the history in some of them proved this, and in four of them there was an undoubted hemophilic diathesis. (Cases two, six, seven and eight.)

CASE 1.—T. B. W., aged 27 years. Operation: Radical tonsillectomy and adenoidectomy. In all the cases the radical tonsil operation—dissection and snare—was performed. Cocaine anaesthesia. In this case there was a history of severe nasal hemorrhage, severe bleeding when teeth were extracted, and after trivial wounds.

Ten cubic centimeters normal horse serum was injected fifteen hours before operation. There was practically no bleeding during the operation, and there was no oozing from the tonsillar fossae afterwards. In all there was less than a half ounce of blood lost.

CASE 2.—A. S., girl, aged nine years. Operation Child's Hospital. Tonsillectomy and adenoidectomy. Ten cubic centimeters serum administered eighteen hours before operation. In this case there was a decided hemorrhagic diathesis, and two of the brothers are subject to profuse nasal hemorrhages difficult to control. A practically bloodless operation was performed, and there was no blood lost after the operation.

CASE 3.—M. E., girl, aged nine years. Operation, tonsillectomy and adenoidectomy, Child's Hospital. Same amount of serum administered as in the last case fifteen hours before operation. In this case the patient

had been subject to bad nasal hemorrhages. Very small amount of bleeding during and after the operation, about one-third the usual amount.

CASE 4.—A. McL., girl, aged ten years. Operation, Child's Hospital. Tonsillectomy and adenoidectomy. Ten cubic centimeters serum given twenty hours before operation. Practically no bleeding during nor after operation.

CASE 5.—A. L., boy, aged nine years. Operation, Child's Hospital. Tonsillectomy and adenoidectomy. Ten cubic centimeters serum injected night before operation. Less than one-third the amount of usual hemorrhage.

CASE 6.—H. J., boy, aged seven years. Operation, Child's Hospital. Tonsillectomy and adenoidectomy. Ten cubic centimeters serum given fifteen hours before operation. In this case there was a decided hemophilic diathesis, in fact in the entire family there was a tendency to severe spontaneous hemorrhages. Very slight bleeding during operation, and no oozing from tonsil wounds afterwards.

CASE 7.—H. Van A., young man, aged 20 years. Strong looking farmer's son, but with the slowest coagulation time of any of the cases. History of excessive bleeding, day at a time, when had teeth extracted, and severe nasal hemorrhages. Hemorrhagic tendency in family.

Operation, St. Peter's Hospital. Tonsillectomy, middle turbinectomy and curettage of anterior ethmoid cells. Patient had had chronic ethmoiditis for years, with severe periodic headaches on same side and ocular disturbances. Middle turbinate large and cystic. Fifteen cubic centimeters serum injected seventeen hours before operation. Ten per cent. cocaine used with very little adrenalin during operation. Practically no bleeding during the tonsillectomy nor afterward.

In the ethmoid operation, which is usually attended by profound bleeding, there was also very slight loss of blood. No nasal tampons were used. Practically no adrenalin, peroxide nor other agents for the control of hemorrhage were used during operations—so that we could get a better idea of the action of the serum.

CASE 8.—J. S., boy, aged nine years. Operation, Child's Hospital. He had a chronic suppurative otitis media, diseased tonsils and adenoids. This was a straight case of hemophilia. Father has had an extremely bad case of purpura hemorrhagica. Father's brother's child, a boy, bled to death as a result of uncontrollable nasal hemorrhage. He was sent to the Child's Hospital and given fifteen cubic centimeters of serum about sixteen hours before the operation. (Tonsillectomy and adenoidectomy.

In this case we surely expected a post operative, and possibly fatal hemorrhage, but to our surprise had a very slight amount of bleeding during the operation, and none afterwards. All the children operated on were kept under observation for a long time after the operations.



In these eight cases the average coagulation time before injection of the serum was 5.18 minutes, and after injection 4.12 minutes, making an average decrease in coagulation time of 1.06 minutes.

In conclusion the writer would say, that considering the comparative safety in the use of serum, and the great lessening of the danger of post operative hemorrhage, it should be used whenever an operation must be undertaken in a subject of the hemorrhagic or hemophilic diathesis.

When it is used in such cases, prior to operation, the operator leaves his patients with a feeling of much greater security, and with the probable assurance that he will not be called to the hospital at one or two o'clock in the morning to deal with an alarming hemorrhage.

Judging by a search of the literature, the much heralded danger of anaphylaxis is practically nil, when as in our cases, only one injection of serum has to be used. In the following table the blood drop was always taken from the ear lobe under aseptic precautions:

Name	No.	Sex	Age	Amount injected	Coagulation time in minutes			Operation
					Before injection	After injection	Decrease in coagulation time	
T. B. W.	1	M.	27 yrs.	10 cc.	4	3	1	Tonsillectomy
A. S.	2	F.	9 yrs.	10 cc.	5½	4½	1½	Tonsillectomy Adenoidectomy
M. E.	3	F.	9 yrs.	10 cc.	4	3½	½	Tonsillectomy Adenoidectomy
A. McI.	4	F.	10 yrs.	10 cc.	4	3½	½	Tonsillectomy Adenoidectomy
A. L.	5	M.	9 yrs.	10 cc.	4½	3½	1½	Tonsillectomy Adenoidectomy
H. J.	6	M.	7 yrs.	10 cc.	5½	4½	½	Tonsillectomy Adenoidectomy
H. Van. A.	7	M.	20 yrs.	15 cc.	7½	6	1½	Tonsillectomy Ethmoid. Turbineotomy
J. S.	8	M.	9 yrs.	15 cc.	6½	4½	1½	Tonsillectomy

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## ACUTE ILEO-COLITIS OF INFANCY.

BY DANIEL V. O'LEARY, JR., M. D.

The grim reaper is annually gathering too many of our rising generation by means of this much feared disease. It is a true inflammatory intestinal disease in which the pathological condition may or may not continue until marked lesions have been produced, often involving all the walls of the gut, and while it is a pathological designation originally, it has distinctly become a clinical symptom-complex.

Although it is seen more frequently in summer and in children under two years of age it may affect those of any age and in any season of the year. Epidemics are not at all uncommon in the early fall months and even later. The writer had an epidemic to combat in a local institution in October, 1913. It is usually primary but often follows the infectious diseases. Marasmus and malnutrition especially in institutions are frequently the forerunner of this condition. Any form of intestinal disease may be a predisposing factor. It seems to be contagious as every precaution was taken in the October epidemic. The milk is certified and was given to all children in the institution. The children under one year, who were upstairs all contracted the disease. The children downstairs who never were in contact with them and have different nurses were free from it. The windows were screened and even the cribs were covered with netting so that a fly could not reach the child. Each child has its individual bottle, which is washed separately and sterilized and every one of the babies on the second floor developed ileo-colitis.

Many theories have been advanced as to how the disease is introduced into the system and what organism produces it. *B. Dysentericus* has received considerable attention as an etiological factor. Shiga established it with reference to ileo-colitis in Japan, Flexner in the Philippines, Duval and Bassett in Baltimore. It is invariably found when blood and mucus are present and rarely found in pure culture. The streptococcus frequently presents itself. Dr. C. B. Gruber of Chicago notes that perhaps the *B. coli* suddenly becomes pathogenic and produces the condition. The *B. pyocyaneus* has been found. Whatever the

germ may be it is rarely found alone and as to its introduction into the system different processes have been advanced.

Bacterial infection which many American pediatricians advocate means direct infection of the system through the intestinal walls. Another theory is that bacteria act as agents in decomposing the bowel content, the resulting product being toxic. Volatile fatty acids, the product of fat and sugar decomposition, are distinctly irritating to the mucosa and may be a cause. Finklestein maintains that it is the result of a metabolic disturbance produced by either too great quantities of normal elements or of elements which as absorption products, may be regarded as abnormal. He bases his theory on the fact that oral or subcutaneous administration of sodium salts or sugar will produce a rise in the temperature but we must remember as the salts and sugars traverse the intestinal canal they are subject to the ferments and bacteria and in the end be only a favorable medium for the growth of intestinal bacteria and the production of toxins. Another cause is heat; just what position that takes as an etiological factor is by no means definitely determined.

The symptoms of this particular class of intestinal disease differ from those of the non-infectious diarrheas. The onset, however, may be preceded by symptoms of a non-infectious form or it may be acute from the beginning. The temperature is always elevated—the pulse accelerated. There is rapid loss of weight and strength; vomiting may or may not be present; when present it is severe, especially at the onset. Diarrhea is constant, ten to twenty stools, and even more, in the twenty-four hours. Tenesmus is often present. The stools at first contain fecal matter but soon contain mucus, pus, blood or shreds of membrane. The odor is often very offensive, except when much mucus is present. The color varies, generally a mixture of brown, green and yellow or it may be any of those colors alone. The consistency of the stool is lessened. Blood is often present, but it does not always denote ulceration as it frequently comes from the engorged blood vessels in the gut which are ruptured by straining. The abdomen quickly become distended, tympanitic and tender to deep pressure. The child is very restless and in severe cases there may be delirium and convulsions. Appetite is lessened, urine diminished and high colored. Prolapse of the rectum may occur as a result of prolonged tenesmus and the skin

in the région of the anus is irritated. In simple catarrhal ileo-colitis where ulceration is not present the symptoms are milder. Vomiting is usually present however. The patient usually begins to improve in a few days and at the end of two or three weeks is entirely recovered. Relapse is quite common and is usually due to the diet which should be carefully regulated. Many cases are fatal. Even a simple catarrhal ileo-colitis may rapidly become fatal. Ulceration generally means death.

Although the detection of a specific causative organism is the only certain means of diagnosis, the presence of mucus in the stools, the early appearance of blood, continued high temperature and the special characteristics differentiating infectious diarrhea from the non-infectious form generally can be pronounced ileo-colitis. Cholera infantum and the other infectious diarrheas are differentiated by the constant vomiting and the discharge in the stools which are serous.

The prognosis is in most cases favorable except in epidemics of unusual severity. When ulceration is present it is unfavorable and when the symptoms increase in severity and the little face looks pinched, when vomiting persists and the nervous symptoms predominate the prognosis is very unfavorable. Certain complications also affect the prognosis and will be described later.

To treat acute ileo-colitis intelligently is a good deal a matter of individual judgment based on individual experience, because our evidence of etiology is not yet absolute, as no specific bacteria have yet been found and the anti-dysenteric serum has proved to be a flat failure. The treatment is dietetic, hygienic and medicinal. Too much stress cannot be laid on early and energetic measures in the treatment of this disease. Do not allow the parents of your helpless patients to be deluded with a teething or worms or any other equally foolish idea. First decrease the amount of the feeding, whether breast or bottle fed. Sometimes I discontinue milk entirely and use barley water, peptonized foods and beef broth, at other times skimmed milk, butter milk and acid milk according to the cases; as the symptoms improve the diet is gradually increased to the normal.

Cream, top milk and malted foods should be avoided entirely until the patient recovers. For months after an acute attack



the diet should be carefully watched, as relapse is the one thing to be avoided.

Daily baths in tepid water and an abundance of fresh air are essential. When possible, send your little charges away after convalescence is established for a change of air, and improvement will be more rapid.

It is best first to empty the gastro-enteric canal of all offending substances, usually by a course of calomel followed by castor oil. Irrigation of the colon with about two quarts of normal salt solution at 104° F. injected high helps wonderfully, and if the stools continue to be profuse it should be given twice daily. Many eminent pediatricians condemn the use of bismuth. I have used it with great success; it is astringent and forms a protecting coat over the mucosa. I give fifteen grains to a child of one year and repeat four times daily. When pain and tenesmus continue opium is indicated I give a half minim of the deodorized tincture and repeat as necessary. Also small injections of hot water and ice water may be used. When blood is present astringent injections should be used. Tannic acid, one drachm, to water, one pint, is very useful. If the child screams and struggles do not persist, as complete rest is absolutely necessary, and if necessary give a subcutaneous injection of morphine, gr. 1/20, and atropine, gr. 1/200. A weak pulse, cold extremities, or complete prostration indicate alcohol. Brandy, ten to twenty drops well diluted, has saved many babies.

When the patient begins to convalesce it is often wise to stop all medication and give careful attention to the diet with irrigation and change of air when possible. General tonics are required at times, such as iron, nux vomica and arsenic. Buttermilk has been used for the last ten years more or less extensively to combat intestinal fermentation of infancy. Kindal, in 1910, drew attention to the value of the lactic acid ferments in reducing intestinal putrefaction.

Drum pasteurized modified milk mixtures and ripened them with cultures of pure lactic acid bacilli. This treatment and the buttermilk treatment have given good results. However, the lactic acid bacilli in buttermilk do not survive after ingestion and therefore cannot multiply in the intestine to produce sufficient lactic acid to destroy the putrefactive bacilli.

Metchinikoff found that *Bacillus Lactis Bulgaricus* will live

and multiply in the intestine after ingestion and will destroy putrefactive organisms. Bolonowsky, Colyndy, Herten, Kendal and Clock confirmed these observations. I had five cases on the B. B. emulsion and four on the B. B. tablet. These cases had been ill anywhere from four to fifteen days before the B. B. was instituted; of the five on the emulsion four recovered immediately. Those on the tablets three recovered. Two cases that died were in the extreme stage of disease and only one lived one day after the medication was started. All that recovered showed a gratifying gain in weight.

Common brewers' yeast of the ale variety has proved of considerable value. I used it in four cases with good results and in one case complicated with dermatitis necrosa which died.

Wet nurses were often employed where the infant seemed to be in need of human milk.

#### COMPLICATIONS.

Erythema intertrigo about the genitals, perineum, thighs and lower abdomen is of frequent annoyance, caused by the acid irritating discharges from the bowel. The erythema may develop into a dermatitis and it is advisable to use prophylaxis before the erythema could develop. Furunculosis is often a very distressing complication in ileo-colitis. Usually it develops on the head and I have seen the necrosis of the scalp extend to the pericranium, leaving a bare surface as large as a quarter of a dollar. Abortive measures such as iodine, silver nitrate, etc., prove futile. Incision as soon as the evidence of suppuration is the rule, hastened by hot boric acid compresses. Frequently pus does not form; then thoroughly scrubbing with green soap and water following with an alcohol bath will alleviate the condition.

A twenty-five per cent. ichthyol plaster tends to prevent auto-intoxication.

Hypostatic congestion of the lungs is due to prolonged recumbent position, weakened heart action, deficient respiration and the influence of gravity; generally the posterior and inferior portions of the lungs are involved. This should be met by frequently changing the position and giving such agents as digitalis, belladonna and caffeine. The digitalis gives greater force to the ventricular systole and tends to overcome pulmonary con-

gestion and relieve an engorged right heart. Belladonna lessens the extravasation into the lungs and caffein is a powerful pulmonary stimulant. A sponge bath with friction tends to tone up the vaso-motor nerves. This condition should be carefully guarded against, for if not properly treated venous distention of the right heart and other vital organs may be the final scene in ileo-colitis.

If the child has suffered severely from the bowel condition it is in poor shape to combat pneumonia. The activity of the micro-organism is stirred up and finds a fertile soil to set up a catarrhal pneumonia not unlike that complicating the exanthemata. As a primary disease the prognosis of pneumonia is good, as a complicating factor it is grave.

Tubercular pneumonia may develop and is fatal. The general treatment of pneumonia is indicated.

*Ulceration of the Bowel.*—The autopsy table often shows the impossibility of diagnosing during life the gravity of the intestinal lesions and range from a simple hyperaemia of the mucosa to deep follicular ulceration. The lower two or three feet of the ileum and the colon are the site of the lesions. Perforation is practically unknown.

Intussusception due to mucosal irritation in ileo-colitis may set up an irregular muscular action causing a minute infolding of the gut which slowly increases until the dignity of a complete intussusception is attained. The clinical picture is one of obstruction. The patient is suddenly seized with paroxysmal abdominal pain; vomiting continues until feces appear in vomitus. The temperature varies from 101 degrees to 103 degrees; pulse, 120 to 150. There is rectal tenesmus with a discharge of blood and mucus and after a few hours a mass can be felt at the site of the intussusception. Prognosis is grave. Nature rarely helps. One should first attempt to reduce this by inflation or injections and taxis under anesthesia. A No. 18 American catheter, well oiled, is attached to a fountain syringe filled with two quarts of normal salt solution. Hang the syringe three and one-half or four feet above the child's body and have the buttocks raised about one foot above the shoulders. The solution is then allowed to flow into the colon while a towel is packed around the catheter at the anal opening to prevent the escape of fluid; by gentle abdominal manipulation a reduction may be accomplished. If

the surgeon fails, he should be in readiness to do a laparotomy under the same anesthesia. Fisches of New York states the mortality rate of surgically treated cases is about fifty per cent.

Although I have never seen it, Dr. Alfred A. Robinson of Salt Lake City, speaks of spurious hydrocephalus and infantile spinal paralysis, as complicating acute ileo-colitis. Spurious hydrocephalus, he says, is due to a passive congestion of the brain and is characterized by fretfulness followed by vomiting, by increasing drowsiness, pupils not sensitive to light and contracted. Finally vomiting ceases, the stools are less frequent, urine scanty and death supervenes. Poliomyelitis, according to Sachs, is not out of place in speaking of the complications of ileo-colitis as it occurs usually in summer. Three-fifths of all cases of infantile paralysis occur before the fourth year and frequently it is associated with vomiting and diarrhea. Robinson mentions such a case in the epidemic of ileo-colitis in Western Pennsylvania in 1907.

I found the disease to be primary forty-two times with no complications, and the following complications accompanied it as tabulated hereafter: Marasmus, 14; acute inanition, 15; broncho-pneumonia, 8; heat, 8; acute miliary tuberculosis, 2; furunculosis, 10; intestinal obstruction, 1; pemphigus, 1; intertrigo in many cases and not indexed. Therefore, it can readily be seen that in spite of every care complications do arise and often terminate this disease.

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### Editorial

The sea-captains' table was presided over by an old captain of a large vessel, M. Gertrais-Gaboureau. M. Gertrais-Gaboureau could hardly be regarded as a man; he was rather a living barometer. His long life at sea had given him a surprising power of prognosticating the state of the weather. He seemed to issue a decree for the weather to-morrow. He sounded the winds, and felt the pulse, as it were, of the tides. He might be imagined requesting the clouds to show their tongue—that is to say, their forked lightnings. He was the physician of the wave, the breeze, and the squall. The ocean was his patient. He had traveled round the world like a doctor going his visits, examining every kind of climate in its good and bad condition. He was profoundly versed in the pathology of the seasons.

*Toilers of the Sea.*

VICTOR HUGO.



**A Model  
Training  
School for  
Nurses.**

On the tenth of September was held at the St. Lawrence State Hospital, at Ogdensburg, N. Y., a reunion of the graduates of the Training School for Nurses, for the purpose of organizing a permanent association. There was a representative attendance and the opportunity was taken for a retrospect of the history of the school and a review of its progress and aims. It is in many ways a notable institution, and the principles upon which it operates should not only be more generally understood, but might well be imitated in other institutions of the kind.

The St. Lawrence State Hospital was established by act of the Legislature in 1886 under the title of the "State Asylum for the Insane at Ogdensburg," and the designation was changed in common with that of other institutions in 1889, in recognition of the growing appreciation of what was known as the "medical idea." In Dr. P. M. Wise, its first superintendent, the St. Lawrence Hospital was fortunate, for his efforts at organization and administration were based upon the two broad general principles of the greatest individual liberty of patients, and the pathological basis of insanity. He opened the hospital unhampered by traditions, and with the approval of a broad-minded board of managers, proposed the very highest ideals of treatment of his patients. He insisted upon accurate observation of physical disorders, and had great pride in the hospital wards for the acutely sick, which are models of beauty and effectiveness; and upon their occupation he directed the medical staff in the organization of the training school for nurses. A course of two years was arranged, the instruction was broad and emphasis was placed upon general medical and surgical nursing, not only by lectures and recitations, but by practical experience at the bedside. And at that early date the value of the teaching and the morale of the school were attested by the demand for its graduates in the general practice of the community.

There was no common agreement as to how training schools should be conducted, and there were no laws recognizing such schools or regulating the practice of nursing. The idea of a training school appealed to many institutions, and it was found of advantage to offer instruction to young women in exchange

for attendance upon the sick. This might and easily did become an abuse, for small, special hospitals were unable to provide clinical instruction, except in a restricted field, and their graduates were ill-qualified to enter upon general practice.

In this uncertain formative period of the development of modern nursing the work of Dr. Edward Cowles stands pre-eminent. Dr. Cowles was the pioneer in establishing training schools upon a proper foundation, and at the Boston City Hospital, and later at the McLean Hospital, pointed the way which has since been followed. With habitual keenness of vision and quick comprehension Dr. Wise grasped the essential idea, and the St. Lawrence School was modelled upon that at Waverly. Dr. Wise's successor, Dr. Hutchings, has kept this fundamental need in mind and the plan is now amplified by a system of exchange with Bellevue Hospital in New York City so that the general experience of the nurses in training will be perfected. This is an advantage, not altogether on one side, for the lack of knowledge of the mental symptoms of diseases and of changes of personality during sickness is a glaring want in the education of nurses in general hospitals. In fact the line between mental and physical diseases is still too sharply drawn, and it is not generally understood, either by laymen or practitioners, that there is no disease which does not affect both the mind and the body. Perhaps it would be better if the terms insanity and mental disease were more sparingly used, and there should be general agreement upon recognition of the mental symptoms of disease.

During the existence of the St. Lawrence School nursing has established itself as a profession, subject to regulation by law, and this school has been found to meet the statutory requirement and its graduates are legally recognized. How far legislation will go is a question of doubt, and it appears to some that efforts in this direction have been carried to an extreme. The close affiliation of schools for nurses with hospitals has provided practical instruction which reaches the ideal, and in no other profession have there been such liberal opportunities. The requirement of an established degree of preliminary education gives assurance of properly educated and properly trained nurses. As in any other polite calling there are many who rise above the average; and they, by reason of natural gifts and

grasp of large problems, deduce generalizations, and are sought for public positions. Their knowledge of medicine, of sanitation and the prevention of disease, fits them for this wider demand. But it may be doubted whether regulation of the whole field of nursing should be established upon the plane of the few, lest the original plan of caring for the individual be lost from sight. It is to be hoped that the ill-controlled enthusiasm which drives physicians and nurses into the glare of publicity may not go too far, lest the reaction be attended by disaster. A few must be called for the study and regulation of disease in the abstract, but many are needed for the conscientious and laborious care at the bedside of the individual, and this silent work should never be depreciated.

In an institution for mental cases, as the St. Lawrence State Hospital, may be attained the highest element of faithful, disinterested service. In the addresses given at the reunion reference was made to the case of a young girl who was received at the hospital some twenty years ago. She was then about sixteen years of age, and the period of life usually most happy and remunerative has passed in custody and under the limitations of an institution. It was cited as a concrete instance of the silent appeal made daily by thousand of helpless patients. With the nurses rested the decision whether they should have such comfort and pleasure as their mental condition permitted them to enjoy, or whether their misery should be made complete.

The sentiment of the staff of the St. Lawrence Hospital is the best. As its school attains the years of its majority the event is signalized by union with a large metropolitan general hospital in confirming the broad, general and irrefutable principle that disease of the mind and disease of the body are essentially one, and that study and treatment of the individual is the only road to restoration to health.

Thus the quiet efforts of the pioneers of that distant border of our State, a generation gone are now recognized and utilized to the advantage of the largest hospital of its metropolis.

**Public Health**

Edited by Arthur Sautter, M. D., Health Officer.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, AUGUST, 1914.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

*Deaths.*

Consumption. . . . .	19
Typhoid fever . . . . .	3
Scarlet fever . . . . .	1
Measles. . . . .	0
Whooping cough . . . . .	2
Diphtheria and croup. . . . .	1
Grippe. . . . .	0
Diarrheal diseases . . . . .	9
Pneumonia. . . . .	1
Broncho-pneumonia. . . . .	0
Bright's disease . . . . .	9
Apoplexy. . . . .	9
Cancer. . . . .	17
Accidents and violence. . . . .	5
Deaths under one year. . . . .	25
Deaths over 70 years. . . . .	27
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Total deaths . . . . .	148
Death rate . . . . .	15.83
Death rate less non-residents. . . . .	13.58

*Deaths in Institutions.*

	Resident	Non-Resident
Albany Hospital . . . . .	12	6
Child's Hospital . . . . .	0	0
County House . . . . .	1	0
Homeopathic Hospital . . . . .	8	2
Home for the Friendless. . . . .	1	0
Hospital for Incurables. . . . .	1	0
House of Good Shepherd. . . . .	0	0
Little Sisters of the Poor. . . . .	1	2
Public Places . . . . .	2	0
St. Margaret's House. . . . .	3	0
St. Peter's Hospital. . . . .	4	5
Austin Maternity Hospital. . . . .	4	1
Albany Hospital Tuberculosis Pavilion. . . . .	4	2
Labor Pavilion . . . . .	1	2
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Births. . . . .	169	
Still births . . . . .	6	



## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. . . . .	8
Negative. . . . .	18
	<hr/>
Total. . . . .	26

Living cases on record August 1, 1914..... 355

## Cases reported:

By card . . . . .	15
Dead cases by certificate.....	3
	<hr/>
	18

Total. . . . . 373

Dead cases previously reported.....	16
Dead cases not previously reported.....	3
Removed. . . . .	1
Recovered. . . . .	1
	<hr/>
	21

Living cases on record September 1, 1914..... 352

Total tuberculosis death certificates filed during August..... 19

## Non-resident deaths:

Albany Hospital . . . . .	3
Albany Hospital Camp.....	1
C. F. L. Pavilion.....	2
	<hr/>
	6

Resident tuberculosis deaths..... 13

*Report of Visiting Tuberculosis Nurse.*

Old cases . . . . .	12
New cases . . . . .	14
Returned from hospitals.....	8
	<hr/>

Total. . . . . 34

## Disposition of old and new cases:

Died. . . . .	1
Sent to hospitals.....	9
To general tuberculosis nurse.....	14
Left town . . . . .	1
Lost track of.....	1
Discharged. . . . .	1
Remaining under treatment.....	7
	<hr/>

Total. . . . . 34

Visits made .....	19
Visits made, old cases.....	157
Calls at Board of Health office.....	30
Calls at Commissioner of Charities.....	28

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	10
Scarlet fever .....	116
Diphtheria and croup.....	5
Chickenpox. . . . .	1
Smallpox. . . . .	1
Measles. . . . .	2
Whooping-cough. . . . .	4
Consumption. . . . .	15
Septic sore throat.....	1
Total. . . . .	155

## Number of days quarantine for diphtheria:

Longest..... 10      Shortest..... 9      Average.....  $9\frac{1}{2}$

## Number of days quarantine for scarlet fever:

Longest..... 53      Shortest..... 31      Average.....  $41\frac{1}{4}$

## Fumigations:

Houses..... 47      Rooms..... 259

Cases of diphtheria reported..... 5

Cases of diphtheria in which antitoxin was used..... 4

Cases in which antitoxin was not used..... 1

Deaths after use of antitoxin..... 0

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive. . . . .	7
Initial negative. . . . .	256
Release positive. . . . .	0
Release negative. . . . .	16
Failed. . . . .	8
Total. . . . .	287

*Test of Sputum for Tuberculosis.*

Initial positive. . . . .	7
Initial negative. . . . .	17
Total. . . . .	24

BUREAU OF MARKETS AND MILK.

Public market inspections.....	22
Market inspections .....	30
Fish market inspections.....	2
Fish peddler inspections.....	1
Rendering house inspections.....	5
Milk depots inspected.....	11
Milk depots deficient.....	2
Dairies inspected .....	18
Milk houses inspected.....	21
Milk houses deficient.....	11
Milk cans inspected.....	75
Milk cans unclean.....	7
Cows examined .....	208
Cows quarantined .....	4
Lactometer readings .....	30
Below standard .....	2
Temperature readings .....	30
Fat tests .....	2
Below standard .....	2
Sediment tests .....	15

MISCELLANEOUS.

Work certificates issued to children.....	7
Number of complaints of nuisances.....	88
Privy vaults .....	7
Closets. . . . .	6
Plumbing. . . . .	19
Other miscellaneous complaints.....	56
Number of dead animals removed.....	846
Cases assigned to health physicians.....	71
Calls made .....	138

# Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR AUGUST, 1914.—Number of new cases, 151; classified as follows: Dispensary patients receiving home care, 8; district cases reported by health physicians, 4; charity cases reported by other physicians, 37; moderate income patients, 77; metropolitan patients, 25; old cases still under treatment, 198; total number of cases under nursing care during month, 349. Classification of diseases for the new cases: Medical, 17; surgical, 8; gynecological, 4; obstetrical under professional care, mothers 51, infants 51; eye and ear, 2; infectious

diseases in the medical list, 18. Disposition: Removed to hospitals, 12; deaths, 14; discharged cured, 105; improved, 25; unimproved, 6; number of patients still remaining under care, 187.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 1; students in attendance, 2; nurses in attendance, 3; patients carried over from last month, 1; new patients during month, 4; patients discharged, 4; visits by head obstetrician, 2; by attending obstetrician, 0; by students, 38; by nurses, 55; total number of visits for this department, 95.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,387; for professional supervision of convalescents, 483; total number of visits, 1,870; visits to pay cases, 819; to charity cases, 568; unrecorded visits, 483; cases reported to the Guild by 2 health physicians, and 37 other physicians; graduate nurses 5, certified nurses 2, and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 83; new patients, 138; old patients, 278; total number of patients treated during month, 416. Classification of clinics held: Surgical, 12; nose and throat, 3; eye and ear, 13; skin and genito-urinary, 8; medical, 12; lung, 7; dental, 0; nervous, 2; stomach, 5; children, 13; gynecological, 8.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—The regular meeting of the Medical Society of the County of Schenectady was held in the rooms of the Society in the County Court House, Tuesday, September 8, 1914, at 8.30 P. M.

Scientific program: "Surgical Assistance vs. Surgical Interference in Tissue Repair," Dr. John H. Collins; "Report of Case of Lymphatic Leukemia," Dr. S. S. Ham.

STATE HOSPITAL TRANSFERRED.—The Long Island State Hospital for the Insane, which has hitherto been leased from the city of New York to the State for the sum of \$1.00 per years since the State act went into effect in 1893, was transferred by deed from the city to the State of New York, August 10th.

DIVISION OF COMMUNICABLE DISEASES, NEW YORK STATE DEPARTMENT OF HEALTH.—The monthly bulletin of the New York State Department of Health has issued the following report of division of communicable diseases for month ending May, 1914: Anthrax, 0; chickenpox, 1,523; cholera Asiatic, 0; diphtheria, 2,122; dysentery, amoebic and bacillary, 0; epidemic of cerebrospinal meningitis, 54; epidemic of streptococcus (septic sore throat), 1; German measles, 358; glanders, 1; measles, 8,742; mumps, 720; ophthalmia neonatorum, 3; para-typhoid fever, 0; plague, 0; poliomyelitis, acute anterior (infantile paralysis), 4; puerperal septicemia, 1; rabies, 0; scarlet fever, 2,457; smallpox, 38; trachoma, 3; tuberculosis, 2,708; typhoid fever, 304; typhus fever, 0; whooping cough, 1,534.



**COURSE IN HYGIENE AND PREVENTIVE MEDICINE.**—Albany Medical College announces a special course in hygiene and preventive medicine which shall have special reference to the needs of the general practitioner and in addition the State Department of Health has consented to deliver a series of twenty lectures on subjects related to hygiene and preventive medicine, especially on the relation of bacteriology to public health and the control of communicable disease. The special lecturers announced are Drs. Herman M. Biggs, Linsly R. Williams, Augustus B. Wadsworth, Cressy L. Wilbur and C. E. A. Winslow.

**CALL FOR NURSES.**—The American Red Cross on August 15th sent out its first call for nurses to join the relief expeditions which it is preparing to send to Europe. Great Britain, France and Russia, through the American embassies in those countries, have already formally accepted the offer of surgeons, nurses, surgical equipment and hospital supplies from the Red Cross. One of the Red Cross units will also be sent to Serbia.

**HEALTH OF THE AMERICAN TROOPS AT VERA CRUZ.**—Despite four months of duty in the tropics of Vera Cruz, the American soldiers and marines have maintained a very satisfactory average of health. The sick rate for the week ended September 2 was 2.40 per cent. for the army and 1.63 per cent. for the marines. Fifty men were sick in the hospitals and twenty in quarters. Of these, sixty-four were incapacitated by disease, and six by injury. Fifteen cases of malaria were reported. Ninety-seven soldiers remained sick at the end of the week, as compared with 106 remaining sick August 26.

**ALBANY HOSPITAL NURSE TRAINING SCHOOL.**—The graduating exercises and reception of the Class of nineteen hundred and fourteen of the Albany Hospital Nurse Training School was held at the Nurses' Home, Albany Hospital, September 17, at 3.00 P. M.

**PUBLIC HEALTH SERVICE.**—Boards of commissioned medical officers will be convened to meet at Washington, Boston, Stapleton, N. Y., Chicago, St. Louis, New Orleans and San Francisco on Monday, October 19, 1914, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Public Health Service. Candidates must be between 23 and 32 years of age, graduates of a reputable medical college and of good moral standing. The examinations are: 1. physical, oral, written, clinical. Successful candidates will be numbered according to their attainments on their examination and commissioned in the same order. Assistant surgeons receive \$2,000; passed assistant surgeons, \$2,400; surgeons, \$3,000; senior surgeons, \$3,500, and assistant surgeon generals, \$4,000 a year. For invitation to appear before the board of examiners, application should be made to the "Surgeon General, Public Health Service, Washington, D. C.

**COMPULSORY VACCINATION.**—The Commissioner of Education of New York State has recently notified the officers of the public, parochial and private schools throughout the State that no pupil is to be admitted for attendance unless he or she has been vaccinated as required by law, and this has led school officers to apply to the Attorney-General for a construction of the vaccination law. In his opinion, Attorney-General Carmody says: "Children in parochial schools should be vaccinated, as are children in the schools supported by public expense. It is apparent that the danger of contagion is existent in parochial schools as well as in schools supported by public money. The purpose of the statute being so plain, good citizens will not question its application, but in recognition of a policy will accede thereto. The difficulty of penalizing a parochial school which existed when Attorney-General Cunneen examined the question some years ago has not been removed from the present statute. However, the ordinance powers conferred upon municipalities and the general powers of local boards and of the State Commissioner of Health are such that I believe vaccination could be enforced where schools not supported by the public money endanger the health by persistently refusing to comply with the highly commendable requirement."

**AMERICAN PROCTOLOGIC SOCIETY.**—The sixteenth annual meeting of the American Proctologic Society was held at Atlantic City, N. J., June 22 and 23, 1914. The following papers were presented: "Extracts from the Report on Proctologic Literature from March, 1913, to March, 1914," Dr. S. T. Earle; "Coccygodynia: A New Method of Treatment by Injections of Alcohol," Dr. F. C. Yeomans; "The Technique of the Perineal Operation of the Rectum," Dr. J. A. MacMillan; "Myasthenia Gastro-Intestinalis," Dr. V. L. Fitzgerald; "Further Observations on Pruritus Ani; Its Probable Etiological Factor; Results of Treatment" (a fourth report based on results of original research), Dr. D. H. Murray; "A Report of Cases of Pruritus Ani Treated with Carnotite," Dr. S. T. Earle; "Treatment of Amebic Dysentery by Emetine Hydrochloride," Dr. A. J. Zobel; "Amebic Dysentery and Its Treatment," Dr. W. M. Beach; "The Pathologic Sigmoid Colon and Its Surgery," Dr. L. J. Hirschman; "Myxorrhoea Coli-Myxorrhoea Membranacea and M. Colica," Dr. S. G. Grant; "Peri Rectal Gumma; Report of Two Cases," Dr. A. B. Graham; "Anal and Rectal Growths of Benign or Doubtful Character," Dr. T. Chittenden Hill; "Retro Rectal Injections," Dr. C. F. Martin; "Hemorrhoids; Their Treatment," Dr. J. Rawson Pennington; "Hyperplastic Tuberculosis of the Colon," Dr. J. M. Frankenburger; "Pseudo-Intestinal Stasis and Real Intestinal Stasis, Demonstrated Roentgenologically," Dr. A. F. Holding; "Local Treatment of Anal Fissure," Dr. R. W. Jackson; "Crude and Careless Diagnostic Methods and Results of Same, in Some Recto-Colonic Conditions," Dr. J. L. Jelks; "Abscess Originating in a Pilo-Nidal Sinus," Dr. L. J. Krouse; "Abnormalities of the Colon, as seen with the Roentgen Ray; Lantern Slide Demonstration," Dr. W. I. LeFevre; "Some Problems before the American Proctologic Society," Dr. J. A. MacMillan.

FOURTEENTH ANNUAL CONFERENCE OF THE SANITARY OFFICERS OF THE STATE.—The fourteenth annual conference of the sanitary officers of the State was held at Saratoga Springs, Dr. Herman M. Biggs, Commissioner of Health, presided. Mr. George F. Peabody, chairman of the State Reservation at Saratoga discussed Saratoga as a health resort, and Dr. Albert W. Ferris gave an address on "The Therapeutic Uses of the Saratoga Mineral Waters." Thomas E. Finnegan, LL.D., Assistant Commissioner of Education, discussed that department, and discussions on the physical examinations of school children were given by Miss Julia G. Lathrop, Chief of the Children's Bureau, Washington, D. C., Leonard P. Ayres, Ph. D., Director of the Division of Statistics and Education, Russell Sage Foundation, and S. Josephine Baker, M. D., Director of the Bureau of Child Hygiene, New York City Department of Health. Other papers presented were: "Qualifications and Training of the Public Health Official, Dr. A. C. Abbott, Professor of Hygiene of the University of Pennsylvania, and George C. Whipple, C. E., Professor of Sanitary Engineering, Harvard University and Massachusetts Institute of Technology; "The Diagnosis of Contagious Diseases." Dr. Alvah H. Doty, formerly health officer of the port of New York, John W. Trask, M. D., Assistant Surgeon General, United States Public Health Service, Washington, D. C.; "The Health Department and the Physician," Dr. Hermann M. Biggs; "The Department of Education and the School Child," Dr. John H. Finley, LL.D., Commissioner of Education; "The Health Department and the Public," Dr. W. A. Evans, formerly Commissioner of Health of Chicago; director of the Health Department of the Chicago *Tribune*.

AMERICAN JOURNAL OF SURGERY.—Beginning with the October issue, the *American Journal of Surgery* will publish a 32-page supplement devoted exclusively to Anesthesia and Analgesia. This supplement will contain editorials, contributed articles and communications, abstracts, transactions of societies and book reviews. The supplement has been adopted as the official organ of the American Association of Anesthetists and the Scottish Society of Anesthetists and will also publish the transactions of other like societies.

EIGHTH ANNUAL MEETING OF THE THIRD DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The eighth annual meeting of the third district branch of the Medical Society of the State of New York was held at Albany, N. Y., September 15, 1914. The following papers were presented: President's Address, Dr. Robert Selden, Catskill, N. Y.; "Appendicitis," Dr. John H. Gutmann, Albany, N. Y.; "The Conception of Hay Fever as an Anaphylactic Reaction, and Its Treatment by Active Immunization," Dr. Robert A. Cooke, New York City; "Present Attitude Regarding Certain Drugs Used in Heart Affections," Dr. Edwin H. Shepard, Syracuse, N. Y.; "What is the Responsibility of the General Practitioner to his Patient who has Obstructive

Prostatic Hypertrophy?" Dr. Paul M. Pilcher, Brooklyn, N. Y.; "Tetanus, with Report of Two Recoveries," Dr. Alexander A. Stern, Kingston, N. Y.; "Carcinoma of the Breast," Dr. John B. Harvie, Troy, N. Y.; "Constipation. Its Diagnosis and Treatment," Dr. Jerome Meyers, Albany, N. Y.; "Goiter. From the Medical and from the Surgical View," Dr. Charles P. McCabe, Greenville, N. Y., and Dr. John L. Loutfian, Cossackie, N. Y.

OPENING EXERCISES OF THE COLLEGE.—The opening exercises of the eighty-fourth session of the Albany Medical College were held in the amphitheatre of the college, Tuesday, September 22, at 12 M. The introductory address was delivered by Professor Joseph D. Craig, M. D.

PERSONALS.—Dr. WILLIAM O. STILLMAN (A. M. C. '87), Albany, has arrived home from Europe.

—Dr. THOMAS RYAN (A. M. C. '93), Albany, has been appointed one of the examining physicians for the Albany District by the State Compensation Commission.

—Dr. GERALD E. GRIFFIN (A. M. C. '01), Albany, has been appointed one of the examining physicians for the Albany District by the State Compensation Commission.

—Dr. JOSEPH A. LANAHAN (A. M. C. '99), Albany, has been appointed medical inspector for the Department of Labor, State of New York.

—Dr. CONRAD R. HOFFMAN (A. M. C. '03), has been appointed an attending surgeon at the Glens Falls Hospital.

—Dr. HARRY S. HOWARD (A. M. C. '13), after a year as resident physician of the Albany Hospital, is now assisting Dr. George G. Lempe, 42 Eagle St., Albany, N. Y.

ENGAGEMENT.—The engagement of Miss Rosalie H. Wasserman, daughter of Mr. and Mrs. Morris Wasserman of New York, to Dr. NELSON K. FROMM (A. M. C. '08), Albany, has been announced.



# ALBANY MEDICAL ANNALS

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## Original Communications

### SEX HYGIENE.

*Discussion at the Second District Conference of Charities and Corrections,  
held at Albany, N. Y., March 8, 1914.*

#### REPORT OF THE COMMITTEE ON SEX HYGIENE,

By HENRY L. K. SHAW, M. D.,

*Albany, N. Y.*

The Committee on Sex Hygiene has arranged a program that will emphasize the value and necessity of properly directed education in overcoming ignorance and misteaching in sex matters. We have been most fortunate in securing the cooperation of distinguished authorities to present papers and discuss different phases of this subject.

We do not look with favor on parents shifting their responsibility in the matter of sex enlightenment. The attempt to include such instruction in the public school curriculum is beset with dangers and the risk is great. The subject of teaching sex hygiene in the public schools received a great impetus when no less an educational authority than Mrs. Ella Flagg Young secured the introduction of the work into the schools of Chicago. The failure of this plan and the discontinuance of the program inaugurated for the sex instruction will serve to indicate that there are many difficulties confronting such a venture. Not one in a hundred school teachers is fitted with the necessary tact, knowledge, and ability to instruct children along these lines.

Children should be and must be told about the great and wonderful method of propagation of our species. The dangers of abuse of these functions must be vigorously and forcefully emphasized. The physical effects of impurity and the nobleness of chastity and continence are subjects which the parents can best discuss with their children. The school can assist in this education and teachers should be trained in the principles of sex education and social hygiene so as to be able to supplement if necessary the home instruction.

It should be remembered that there is no such thing as ignorance of sex, even among children. The question of sex education of children is not one of "Innocence vs. Sex Knowledge," but of "Picked-up Street Tradition vs. The Truth About Sex."

Abraham Flexner, discussing the question of sex education in his recent work on "Prostitution in Europe," says,

"Class instruction disregards individual variations and requires the greatest tact and skill in presentation; the teachers are as yet incompetent; physicians lay as a rule too much stress on disease and on mere knowledge, and are as a rule clumsy and ineffective or skeptical respecting the ethical side, without which such understanding of the subject as may be brought about is apt to be of slight value. The danger that lurks in tabooing or avoiding the subject has been clearly demonstrated; but there is danger, too, in breaking down reserve. The more explicit the intellectual aspects of the matter are made, the more important does it become to insist that the mere communication of the facts cannot possibly alone attain the end toward which the movement looks. The girl must develop character enough to resist easy demoralization; the boy, character enough to subdue rebellious impulse.

"The educational situation in reference to sex hygiene may then be concisely put as follows: little progress has been anywhere made in actual instruction; decided benefit is to be hoped for only where increase of knowledge is accompanied by increase of self-control—by loyalty, conscious and unconscious, to higher ideals of personal behavior."

At a Conference of Roman Catholic Bishops of Germany held in Berlin a short time ago, the question of how to instruct the child in sex hygiene was one of the subjects considered. They adopted these resolutions:

"In general, the instruction of youth in sexual matters should be treated with the greatest caution and reserve. In individual cases where it is necessary, it is the function of the parents, the religious teacher, the father confessor, or the teacher. Sexual instruction in common by lectures to groups of pupils or graduates is to be condemned. The young should be trained early in modesty and if there is need of instruction in sex matters after leaving school, it should be imparted to girls by the mother, to boys by the mother or the father, or in both cases by the father confessor with the greatest caution, teaching and warning in private."

The teaching of the young, as has been mentioned before, should be left to those who have the greatest right to speak and inspire,—the parents. We should not interfere between the child and the parent. A lack of responsibility and ignorance

of how to proceed often prevents parents from frank explanations to their children. Cosmo Hamilton says that men are too self-conscious to take their sons into their confidence and talk to them as they would talk to their friends, and women too nervous and too conventional and perhaps a little too distrustful to be able to disclose the great secret to their little girls. He makes a plea for divine inspiration in dealing with this question.

"Put God back into your schools I beseech you, you scientists and teachers and professors, and when you teach boys and girls the facts you hide behind the high-sounding names Sex Hygiene and Sanitary and Moral Prophylaxis begin with the story of the Christ Baby and end with the description of the weeping mother at the foot of the Cross. Don't teach sex hygiene by drawing analogies between human nature and that of animals and thus send boys and girls loose upon the world to imitate the animals if they choose. Let them start with the wonderful and beautiful fact that their gifts of life-bearing and life-giving are divine gifts. Touch their imagination, feed their hunger for idealism: in a word, treat them as children and not as machines, as human beings so young that their minds are sick for the company of the fairies, for the beauty of simple poetry, for the story of Christ's chivalry and unselfishness, pity and love. Let them have faith. Let them believe in being normal, responsible, honest, clean, because there is some other person to whom to answer than the teacher and the policeman. Give God back to the younger generation.

"All the future is in the hands of the younger generation and the first duty of all of us who take the trouble to look beyond to-day is to see that those hands are clean and strong and that they shall be simple enough to work for the glory of God."

"God hath given to man a short time upon earth and yet upon this short time Eternity depends."

The education of the public is most necessary. Exhibits carefully and accurately prepared, lectures, newspaper articles, pamphlets, plays and small study-clubs are the chief instruments in spreading the principles of sex education.

A few weeks ago, largely through the efforts of a few members of this Conference, Mr. Richard Bennett produced the powerful drama of Brioux' under the English title of "Damaged Goods." The coming of this much discussed and heralded play was announced to the public by the following circular letter:

"On Monday afternoon and evening, February 2, 1914, at Harmanus Bleecker Hall, Mr. Richard Bennett and his co-workers will present the well-known drama of Brioux entitled 'Damaged Goods.' The intention

of this play is to bring to the attention of the general public the danger and prevalence of the so-called Black Plague. This is not a White Slave drama. It makes no appeal to the salacious imagination. Its message is serious and educational, and its teaching carries a timely warning.

"The undersigned, representing various social agencies in this vicinity, urge your co-operation in bringing this drama to the attention of the public."

Rev. CHARLES FRANKLIN SHAW,  
*President, Albany County Ministerial Association.*  
ROBERT W. HEBBERD,

*President, Capital District Conference of Charities and Correction.*

Mrs. ACORS RATHBUN,  
*President, Young Women's Christian Association.*

WILLIAM I. DAVISON,  
*Secretary, Young Men's Christian Association.*

Mrs. ELMER BLAIR,  
*President of the Albany Woman's Club.*

HENRY L. K. SHAW, M. D.,  
*Chairman, Committee on Sex Hygiene, Capital District Conference  
of Charities and Correction.*

This play was first presented in this country by the *Medical Review of Reviews* of which Dr. Ira S. Wile, one of our speakers this morning, is the editor. It sets forth in dramatic form some of the facts about venereal disease. The medical profession is divided as to the advisability of educating the public in the matters concerned in this play. It does seem as if the public is woefully ignorant of the effects of venereal disease both on the present and unborn generations.

President Charles W. Eliot, after witnessing the play, wrote:

"I have both read and seen it, and know whereof I speak. During the past year the play has been presented in a series of American cities by the same excellent company which is to present it in Boston, and everywhere it has been found to give a serious, impressive and horrible picture of one of the worst evils which afflicts society. There is not a word or a gesture in the play which could possibly provoke or attract anybody to vice. There is nothing in it lascivious or even voluptuous. On the contrary, every scene and sentence is fitted to deter men and women from vicious indulgences, and from the first approaches to vice. The effect of the play, even on the careless or reckless, is solemnizing and restraining."

The *Boston Medical and Surgical Journal*, considered one of the most conservative and scientific of the medical journals, commented editorially as follows:



"Education of the public in matters pertaining to its health and welfare is the watchword of present-day preventive medicine. It was inevitable that sex questions and the related venereal diseases should sooner or later be included in this general movement. This is certainly not to be regretted. The one essential problem is how such education may most expeditiously and most efficiently be brought about. Here, naturally, opinions will differ, and more or less acrimonious discussion is sure to take the place temporarily of the judicial attitude which this problem of deepest moment requires. Experiments must be tried and various methods adopted before a scheme of education can be evolved which may even approximately reach to the core of the difficulty. At present publicity is the prevailing method; such a method manifestly is superficial; its advocates no doubt expect too much from it, and its opponents see only its dangers. In any case, it must be given a trial. Hence the justification for the production of 'Damaged Goods.'"

The frank and dignified discussion of sex matters before selected audiences is to be encouraged and it is hoped that the Executive Committee will continue to include in its program a session devoted to Sex Hygiene.

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## SEX EDUCATION IN SCHOOLS.

By IRA S. WILE, M. D.,

*New York City.*

From the standpoint of education, the term sex hygiene is a misnomer. Sex physiology, sex anatomy, sex pedagogy, or sex ethics would equally describe the educational content of a course of study designed to yield to youthful minds the body of facts essential for their wholesome development. The preferable and comprehensive term for the field in the mind of educators is sex education. This includes the natural training of children along normal lines in their duties and responsibilities for the development and maintenance of their manhood and womanhood and involves preparing them for their highest duties as the potential parents of future generations. Sex knowledge, sex understanding, and sex interpretation are equally indispensable.

Sex education is not essentially a separate educational problem, but is intricately interwoven in the fabric of general education. Assuming that education implies the imparting of the facts, processes and ideals essential for the development of effective

citizenship, it cannot be denied that training for parenthood is involved in the general function of education. As courses of study are at present developed, there is a prevailing habit to omit conscious references to the facts pertaining to sex, in so far as they may arise in the study and teaching of various subjects now included in the curriculum. History, music, nature study, sociology, botany and biology are practically carriers of broad lessons in sex education which have largely been neglected. Religious instruction itself based upon the use of the Bible cannot be adequately developed without opening up to the child mind vistas of thought to be understood only in the light of an intelligent understanding of the vocabulary contained in the Bible itself.

Fundamental opposition has arisen from a failure to recognize that sex education is constantly being acquired by children. Ignorance and innocence in childhood, in so far as sex themes are concerned are not one and the same thing.

The great problem for educators to determine is whether they are to assume the responsibility for the normal and healthful instruction of the young with regard to the facts pertaining to sex or whether they are to continue to permit childhood to gain its information from corrupt and foul sources, from erotic literature, or from the evil traditions of the gang. Obviously, the teacher cannot shirk his responsibility, while education is deemed essential for the betterment of the human race.

In the inculcation of virtues, stress is placed upon honesty, justice, chastity, courage, kindness and honor, but in so far as these values are to be secured through a conscious appeal to sex psychology and sex control, education has been woefully silent and indifferent.

Unfortunately, the ordinary approach to the subject of sex education has been from the pathological side. A recognition of the horrors of the social evil and an appreciation of the relation of the venereal diseases to blindness, idiocy and racial deterioration has served as the starting point for demanding conscious sex instruction as a palliative measure. The traditional barriers of modesty and fear have created a position as difficult, that few teachers have had the courage to attempt to devise a method for dispersing ignorance and giving enlightenment as to the underlying facts necessarily to be imparted in order to lessen these social ravages.

Pedagogically analysed a constructive plan of sex education involves a full recognition of the part that sex plays in the social development and personal progress.

As a result of analysis, sex education no longer can be regarded as a special subject isolated from the rest of life. Sex hygiene is bound up in all the subjects of the curriculum. Constituting a part of general education, it so sinks its identity in the various subjects now taught as to deprive it of the dangers and salacious tendencies so generally feared. The great obstacle to giving such instruction has arisen from the fact that adults rich in experience, saturated with tradition and conscious of sex physiology have failed to appreciate the spiritual, ethical and scientific values of the subject as they may be developed in the plastic and undefiled minds of children.

The methods employed in imparting sex instruction must vary according to the age, sex, family environment, nationality, sex precocity, and mental development of children.

Despite the fact that sex education appears to be an imperative need, I do not believe that for many years to come it will be regarded as a definite subject. In view of the history of compulsory teaching as related to alcohol and tobacco, it seems inadvisable to suggest that sex education should be made the basis of mandatory instruction. It is unwise to give to the subject an abnormal position in the category of school studies. Dangerous results would surely ensue if fanatics, impressed with the importance of this subject, should endeavor to compel its instruction in the elementary schools previous to a complete understanding of its function in elementary schools. While sex instruction must be regarded as an essential phase of educational development, it must not be viewed as a dominating force in education nor as a basic subject of cultural value or of mental development. Its highest significance lies within the realm of ethics and the development of self-control.

In so far as the fundamental facts in sex education are to be acquired previous to school age, it is manifest that the responsibility for laying this foundation rests upon the home. Attempts to arouse parents through the medium of the school would undoubtedly awaken their consciences so that they would respond to the appeal to give the necessary facts along the lines suggested by capable teachers. Parents are particularly capable

of giving natural instruction, once they appreciate their opportunities for natural instruction in view of their familiarity with the vocabulary of their children, their companions, and their general experiences.

In the school itself the difficulties of giving sex education are multiplied by virtue of the size of classes, the mixture of nationalities, the variations in age, and the diversity of sex experience. Coupled with these difficulties are the lack of training of teachers and their consequent reluctance to impart sex instruction.

There should be no specific teaching of sex education below the seventh grade in the elementary schools. The great problem therefore is to train all grade teachers as to the methods of imparting the general sex content of all the subjects in the curriculum in a normal and constructive manner without making it appear that any unusual topic is being discussed.

In the higher classes where departmental systems exist or in the high schools where children are at puberty or in adolescence, there is a more general effort to devise definite lectures upon specific sex themes of informational value and moral force. When specific instruction is indicated, the greatest stress should be placed not so much upon the subject that is taught as the characteristics of the instructor. Tact, sympathy, understanding and example are of equal importance to the possession of the facts to be imparted. The basis of selection of a teacher in sex education should include the personal elements entering into teaching ability as well as the recognition of the general educational power of the teacher. Obviously, the teacher to whom is to be entrusted the careful process of sex education must be possessed of a knowledge of the matter to be presented, the methods of presenting it and a broad comprehension of the relation of the subject of human effort and efficiency. He must possess judgment to determine whether information should be given to individuals or to groups and be able to weigh the effects of his instruction. Sex education must be achieved without the development of sex self-consciousness and without the stimulation of erotic ideation.

The position of sex education in the high schools appears to be definitely determined. As normal boys and girls have acquired a large measure of their sex lore before puberty, the informational character of sex education in the high schools



must possess a correctional bent. The vast amount of misinformation acquired from the streets and the gang, pornographic literature, pathological booklets and false interpretations of current events as described in the press have made their impress upon adolescent minds.

With some limitations, sex education in the high school possesses a prophylactic value. The young adolescents, conscious of new physical sensations and emotional stimuli require careful guidance towards high ideals. The more mature students in the high schools who perchance have drifted with the current and possibly have succumbed to influences dangerous to their physical and moral welfare need to be rescued. The facts pertaining to sex must be placed before them in a clean manner to indicate the dignity of manhood and womanhood and to give them an understanding of their duties and responsibilities in the light of their social duties. The possibility of developing character during adolescence so as to lessen the likelihood of immorality demands the careful instruction of high school students in the facts pertaining to sex.

The ethical lessons involved in sex education assume the utmost importance. Considered from the standpoint of biological development, physical education, civics, and ethics the high school may afford definite instruction upon the meaning of puberty and the relation of the sex instinct to personal success and physical health. The wider problems of the relation of chastity to family welfare, eugenics and racial advancement can be discussed without equivocation, providing that undue stress is not placed upon the venereal diseases and other pathological phases of the subject. To seek to inspire fear and to establish character upon this principle is poor pedagogy. The attempt must be made to constructively create a desire for clean living and self-control on the basis of a positive knowledge of the essential values of sex facts. The dangers of sex education in the high schools are practically negligible providing that instruction is placed upon a high biological, ethical and social plane.

In elementary schools it is desirable to present sex knowledge to children before adolescence without drawing attention to the fact that such instruction is being given. The variations in classes due to numbers, differences in age, nationality, and sex precocity increase the difficulties of definite sex education even

in the upper grades of the elementary schools. If, however, sex education is regarded as essential to the welfare of future citizens, it is manifestly important that such education should be given to the maximum number of children and this becomes possible only through instruction in the elementary schools.

Naturally, in imparting special instruction, particularly for those who are about to leave school in order to go to work, the sexes must be segregated. Within the sexes, groupings should be made not so much on the basis of chronological age as upon psychological age.

The barriers of modesty and shame having arisen in child consciousness just before puberty, increase the difficulties of sex education at this period of school life. The proper grouping of children therefore is imperative. For this purpose the advice of all teachers must be secured even though the instruction be given by one teacher. Frequently it is advisable to omit from the group some children whose morals are believed to be impaired in order to give them individual attention that their instruction may be gauged according to their experiences and needs.

Individualized sex instruction while theoretically desirable at times is practically impossible in a public school system, save in connection with problems of discipline or in response to requests from parents for the imparting of such individual instruction. The disadvantage of individual instruction as opposed to group instruction is that it may tend to accentuate the peculiar qualities of the instruction given, whereas the group instruction makes it appear to be a normal part of education to be received by all and does not serve to build up an overweaning false modesty.

All steps leading to the introduction to sex education must be taken slowly in order that public opinion may constantly support the movement. Of primal importance is the education of the public as to the meaning of sex education, the necessity for its introduction into the schools and the educational methods utilized by teachers. Second, it is a vital necessity that teachers be given a proper understanding of the purposes of sex education and receive training in the matter and methods essential for the proper teaching of the subject. Third, training schools for teachers must organize definite courses for the adequate train-

ing of those who appear to possess special fitness for the presentation of the facts relating to sex problems. The greatest need at the present time is the preparation of teachers of this subject.

The method of instruction in matters pertaining to sex is to practically impart such knowledge of sex at each period of child life as may be valuable and necessary for preserving health, developing high planes of thought, and controlling conduct. Anatomy should be dwelt upon as little as possible and embryology should be involved only in so far as may be necessary for the interpretation of the reproductive phenomena in all the plant and animal kingdom. The scientific processes are to be found in the biological interpretation of nature study, supplemented by the values to be gotten from physical education, civics, hygiene, history, and ethics.

It is obviously impossible for a school to control a child's environment, nor is it within the bounds of possibility to safeguard children from all contacts with demoralizing and corrupting influences in their environment. Instruction as to the importance of bathing, correct methods of clothing, the values of physical exercises, athletics and recreations of a wholesome character are within the limits of sex instruction, in so far as it is related to environment. Guidance as to theatres, gambling, alcoholism, debasing associates in the gang, the advantages of playgrounds, parks, libraries, the importance of religion, the necessity of cherishing home life and maintaining confidences with parents, properly may be included in a constructive program of sex education involving the environment of children.

In the positive education of the child, character formation is the ultimate aim. In the study of reproduction during the adolescent period, utilizing the facts to be gleaned from biology, the ethical implications require greatest emphasis. The evolution of human love, the relations of parenthood to family welfare and the nature and importance of the home together with the ethical relations which should exist between parents and children are ethical and biological concepts of exceedingly great value in making appeals to adolescents.

Without going into details as to the great number and variety of facts to be imparted, I may repeat that the connotations of literature, history, and civics must be combined with the facts of biology, nature study, and hygiene and interpreted in terms

of ethics and sociology. During the early ages, sex facts must be intellectualized in order not to emphasize the developing emotional phases of child nature. During puberty, when emotional waves are fast rushing upon the child mind, they must be harnessed and directed into channels that will do the least damage. The physical phases of sex problems should not be stressed for adolescents except in so far as they are spiritualized. The intellectual appreciation of the facts presented merely furnishes the basis of educating the emotions. The normal development of sex themes proceeds in three stages: First, the intellectual acquisition of facts; Second, the interpretation of emotional life; Third, the spiritualizing of sex consciousness. These three stages are not totally dissociated at any period of child development but must be most closely interwoven in the instruction during adolescence and thereafter.

While parents represent the persons upon whom rests the responsibility for sex education, the school cannot ignore the fact that parents are ignorant of the best methods of pedagogical procedure. For this reason it is highly desirable that schools, through the medium of mothers' clubs, parents' associations or general public lectures, should afford an opportunity to parents to receive instruction upon the necessities of sex education together with pedagogical methods and the material required at different ages of child development. Particular advantage accrues from giving instruction to mothers in connection with the clubs of kindergarten mothers during the first year of the child's attendance at school. Herein is a wide field of usefulness of the elementary school, bringing the school and home in closer co-operation and harmony in the interests of sex education of the young.

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## THE QUESTION OF SEX EDUCATION.

By CLINTON P. McCORD, M. D.,

*Albany, N. Y.*

I must confess that this purely popular discussion that I am about to read was written several weeks ago when the chairman first informed me of my place on the program. I then had a spare hour that I knew from my calendar I was not going to have during the past week.



I then understood the subject to be general and found only a few days ago that it called for only the school aspect. However, my early paragraphs may not be amiss because of their general significance not only to you who are social workers but to that portion of our audience representing other lines of educational and welfare work.

Three days ago I had the pleasure of reading Dr. Wile's paper and I assure you I am doubly glad that I wrote my discussion some time ago. Now that you have heard his paper you will agree with me that it is altogether the sane, scholarly, scientific presentation of the subject that I am sure we all expected from the man whose opinions on this as well as related subjects we have come to respect. His words have been those of a physician and an educator.

It seems to me that no other class of social-welfare students has been more earnest during the past three years than the class that has been concerned in promulgating plans for sex education. The fact that one-fifth of the time of this conference is devoted to presentation and discussion of various phases of the subject perhaps indicates the importance attached to it in the minds of social workers at least. Those of you who attended the International Congress on School Hygiene at Buffalo last August, will recall the place this subject occupied on the program and the eminent persons that were called upon to outline their views upon it. I take it, we have in this movement a great deal of misdirected effort. We are planning to remedy certain conditions without careful inquiry into the causes of those conditions and sometimes without accurate information concerning the effects of our remedies.

The question of sex education is simplified if we consider it as applied to:

1. *The adult public*, including special groups of men and women, as in factories, and the post-adolescents in colleges and professional schools.

2. *The child*.

In the education of the adult public along these lines there seems to be very general agreement that lectures, sermons, newspaper articles, plays, study-clubs as departments of civic and social organizations and carefully prepared public exhibits constitute the chief instruments for effective work. A local com-

mittee on social and moral prophylaxis is a powerful aid in the systematic dissemination of knowledge along these lines. This committee should be representative of the leading educational, a committee a permanent municipal exhibit on sex hygiene might well be recognized as the proper board of censorship when the question of certain theatrical productions arose. Under such a committee a permanent municipal exhibit on sex hygiene might be a reality. The major portion of such an exhibit to secure practical results, necessarily will deal with the question of venereal diseases, their transmission and their effects. The aim in all such teaching is to inspire distaste for promiscuity. When a person has arrived at the point where he or she revolts from biting an apple where another's mouth has left its saliva, refuses to share comb and brush with a traveling companion or insists upon maintaining a personal outfit at the barber shop, there is little possibility that this person will seek the establishment of more intimate forms of contact with any person whose physical condition is unknown. This state of mind means almost certain protection from venereal disease and may develop independent of any special advance in the individual's moral outlook. As to the agents concerned in the direct moral education of the adult public much might be ventured. We find the church, the press and more serious literature are always mentioned. We find it hard to decide upon any one agency that trains definitely the so-called moral side of man. The idea that a man has a separate and distinct part of his being set aside as his moral nature, dates back to the time when our psychology dealt with mental "faculties." A man is moral or immoral not by virtue of some isolated part of his nature—a moral self—that has been trained or neglected as the case may be; but because of the resultant of all influences upon him, which, in our modern conception, constitutes character—a resultant based as you know only in part upon environment and training. This to my mind explains why attempts at the direct teaching of morals have met with only partial success. It is notable that no modern psychologist is responsible for any so-called system of morals. They all believe too firmly that virtue must have its foundation in heredity and in habit to place much faith in any attempt to lay down a theory of training for an isolated phase of character, termed "moral nature." In all this lies the reason why

any definite attempt to introduce the much talked-of and at present popular subject of moral instruction into our public schools will meet with indifferent results.

To return to the question of the dissemination of knowledge on venereal diseases amongst adults, we might well consider a number of sub-headings as I indicated in my outline. One of these only I wish to speak of in this limited time. Where large groups of people are assembled as in our big industrial establishments, the question of reaching them upon these matters is very important. Several years ago I was associated in work of this character with the officials of a factory where over six thousand men and women were employed. Hundreds of dollars were spent by this concern for the spreading of information on sex hygiene among these workmen. Their experience was, that the more simply and directly the truth was presented the better it was received. I recall in contrast very vividly the attempts of a prominent sex hygienist to instruct six hundred factory women along the well known lines of approach laid down by the national organization. One day she showed them pictures of the stamens and pistils of many beautiful plants and flowers and talked to them about the "mama" and "papa" parts of the plants. The next day she showed them colored slides of uterus, ovaries and testicles and told them of pre-natal life. As a physician I was privileged to be the only male auditor. The first day the girls laughed at her, the second day they stared in misunderstanding wonder. It struck me that the method was that of correlation "with a vengeance," if you will permit the expression. She told them that it was a reflection upon the character of a working girl to wear a diamond ring to the factory or office. Some fifty women in the room were wearing engagement rings at the time. I tell this to illustrate the truth that it requires an artist to present the subject even to adults, and we have few artists trained at the present time for the work. Allow me to turn to the last of my main headings—the education of the child in these matters.

This, I take it, is the phase of the work that comes to mind at present with most people when the matter of sex education comes up for discussion. Here again we have the two chief phases of the question—(a) direct moral instruction, and (b) the impartation of knowledge about venereal diseases. Most pro-

fessed students of the subject have considered it largely from the standpoint of material and method.

They agree that the biological sciences offer the proper avenues of approach to the subject proper. As to how long the child should dwell with elementary science before the very personal subject of his own sexual constitution is unfolded is variously stated by different students. In some places at least the transition is recommended in the primary grades. Teachers in such schools have told me with what dread they looked forward to the work, how little they knew of the subject and how much less they knew of the proper way in which to impart their meagre knowledge to children. I saw a cartoon not long ago that seemed full of meaning. It pictured a school teacher, kneeling before a Pandora's box marked "Sexology." At her elbows stood a number of small children with eyes round with wonder, waiting for her to lift the lid.

Montana has a law that provides for teaching in public schools the ways in which the various infectious diseases are transmitted.

Such instruction might well come as a part of regular class work on health, and the venereal diseases would come in for consideration in a way quite natural; somewhere in the higher grades. Some day we shall discontinue the so called physiology of our public school curriculum, discard text books written by doctors who know no pedagogy, or by pedagogues who knew no physiology, and shall present the subject of health in its various aspects, as one of the leading lines of study throughout the school life of the child. The health of the sexual constitution would thus find a place naturally in such a course, not as an isolated subject, but as a natural part of a very general and vitally interesting study.

The present day tendency is to look to the schools for the treatment of a great many conditions without asking whether or not the schools have the equipment, the time or the jurisdiction to work the reform. Until our school system becomes much more paternalistic and controls the child for a much larger measure of time than they to-day do, we must not expect any problem with sociological ramifications to be grappled with scientifically and exhaustively. At present the schools at best can only assist along many of these lines. We know so little of the psychology of sex except from personal histories; and one



who has heard many such histories feels that the multiplicity of variations in development almost makes each person "a law unto himself."

There are many persons so lacking in inhibition that they accept bad ideas easily and act upon them. These people need education but not sex education. Outside of the question of contracting disease we are too much exercised over the problem. Definite teaching of this subject to children will not prevent the so-called immorality of adult life. Men and women act after fairly well-defined laws along the line of all primitive instincts, and the measure of resistance to temptation is found in the native condition of the nervous system and the possession or non-possession of a set of good habits. The primary cause of immoralities of all types is to be sought in the biologic constitution of the individual and not in the fact that he spent his school years without definite instruction along sex lines. Conversely, the fact that all of us may practice the inhibition necessary for a clean life is in no wise dependent upon admonitions formally loaded upon us during childhood. In fact, our springs of action are fed from far different sources if we are introspective enough to analyze our own sex development. A subjective knowledge of sex develops somewhere between the third and fourth years of a child's life. There is no reason to doubt that more detailed truths along this line arises in consciousness at definite periods and ages, and until we have had more research and know more about the maturation of certain phases of this constitution it seems to me we should avoid direct instruction along sex lines in school, until the boy or girl reaches the upper classes of the high school where the adult level of intelligence has perhaps been attained.

The child develops in this respect as an individual, and below the high school class instruction is never going to reach the individual.

If we had a hundred physician-teachers like Dr. Wile in every city, who would present the matter in just the right way to individual cases, or to selected groups, much good might result. But the problem requires too much skill to permit a satisfactory presentation by ordinary teachers or physicians in the artificial setting of school.

Sex gives us the finest and the most horrible things in life.

I have seen it glorifying the faces of the young husband and wife. I have seen it lead the gray-haired married man up the steps of a house of ill-fame and into the arms of a woman whose foulness was soon to be taken home to a patient wife and mother. I have also seen the look of despair in the eyes of a young man facing the horror of a loathsome disease as a companion perhaps for months. There is of course, no question as to the importance of sex as a moving force in human affairs. Let me remind you, however, of Galton's statement made some years ago in reference to education along the line of practical eugenics.

If publicity along a particular line of science far exceeds the knowledge at hand on the matter in question, the truth calls forth ridicule, was his thought. His prophecy, as it were, was verified in the failure of several recent so-called eugenic marriage laws and the weight of ridicule that the cause must combat because publicity work shot so far ahead of scientific knowledge. My feeling is, that until we have more knowledge of the psychology of sex in children to enable us to formulate methods based upon good educational hygiene, the establishment of definite courses in sex education in grades below the high school is unwise.

I have sought to deal with this subject in a purely popular fashion, with the desire to place before you in the same terminology views that you may contrast with many of the radical methods advocated in the popular magazines. Dr. Wile has given us a scientific view of the subject that as social workers and teachers we may make the basis for principles of action. Allow me in closing to remind you of some very definite points that he has brought out—opinions that I am convinced represent the very best thought to-day on this at present much discussed subject:

1. That individualization must be a principle of sex education.
2. That sex as a distinct and isolated subject in school is harmful.
3. That the parent, properly instructed, represents a natural source of information for the child upon sex matters.
4. That adequate training of suitable teachers must precede the introduction of instruction for children along these lines.
5. That specific teaching of sex matters should find a place

only in the high school, or, at the earliest, in the higher grammar grades.

6. That proper child classification should precede any attempt at class instruction in sex matters.

7. That the morbid pathological phases should not be stressed.

8. That the question of the introduction of sex education into schools and the methods of administration requires the survey and advice of an expert medico-educationalist.

And from the last statement we easily conclude, what Dr. Wile has charitably refrained from stating—namely, that the work of sticky-fingered “faddists,” of enthusiastic but misguided educators—in fact, that the attempt by anyone to take up the problem, unless he or she be a trained expert, is likely to result in more harm than good.

And these are excellent thoughts he has brought to us.

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## PUBLIC INSTRUCTION IN SEX HYGIENE.

By WILLIAM F. SNOW, M. D.,

*General Secretary, The American Social Hygiene Association.*

As the program has been arranged, it evidently was the intention that I should present for your discussion those methods of instruction being used in efforts to reach that portion of the people who are not in our schools and who are not to be reached through women's clubs and other organizations of women. The proposal to instruct the public presupposes an agreement as to the need for the instruction and the character of the information to be imparted.

It often clears the way for profitable discussion to analyze the reasons for the existence of a given organization or movement. There are some twenty-six social hygiene societies in the United States besides the National Association, and perhaps fifty other bodies organized as vice commissions, social hygiene committees of women's clubs, and chambers of commerce, or subcommittees of educational and religious associations. The question is often asked, “What are these societies trying to accomplish?” In the past, the answer would vary according to the viewpoint of the person asked. Some would have said, “We are trying to reduce the prevalence of venereal diseases, which cause such an

enormous loss of efficiency and health, and produce so many blind and defective children." Others would have said, "We are trying to bring about a higher standard of morals and to reduce the prevalence of commercialized vice." If we take first the medical point of view and then the moral point of view, and run rapidly over the cardinal facts upon which the education and gaining of the people's co-operation must be based, it will serve to bring out both the need and the general character of the information to be imparted.

The medical approach may be summarized thus:

Some forty years ago, the epoch-making researches of Pasteur and Koch, and their contemporary investigators in the field of the causative relations of bacteria and other forms of microscopic life to certain diseases, supplied the foundation upon which preventive medicine has been built up. When Neisser discovered the organism which causes the most prevalent of the so-called "social diseases" he forecast the probability that some day preventive medicine would count among its greatest battles those fought against venereal diseases. When the causative agent of syphilis, after escaping under cover of some one hundred and six indictments of harmless organism, and baffling scientific researchers for twenty years, yielded to the patient work of Schaudinn, the whole world felt a quickened interest in working out the remaining scientific facts upon which a successful campaign against these diseases could be based. The rapid advances during the past few years in methods of diagnosis and treatment of venereal diseases and in knowledge of their channels of spread made it inevitable that the lines of battle against this group of diseases would be drawn and volunteers called for.

In order to fight a battle intelligently, one must know the enemy. When General Braddock marched into the woods in English formation to fight the Indians, he did a brave thing, but it did not win the battle, and had it not been for the young Continental officer and his men trained in Indian warfare, the whole army would have been exterminated. The history of preventive medicine has many illustrations of similar expeditions under the leadership of officers who did not know the enemy. The diseases under discussion are probably more treacherous, more successfully entrenched, behind customs, practices and habits of the



people, than any others in the category of diseases coming under preventive medicine.

They are not insect-borne like malaria. Therefore they cannot be attacked through warfare upon any insect as has been done with such remarkable success in yellow fever.

They are not water—or food-borne like typhoid fever. Therefore they cannot be attacked through enforcement of sanitation laws as has been so successfully done in cholera.

They are not soil-borne like hookworm disease. Therefore they cannot be attacked by the educational and public health methods which have proved effective in fighting that disease.

They are contact-borne, but unlike tuberculosis which is also a contact disease, they are so closely limited to immediate contact, and so largely spread through the contact involved in sex relations that they may properly be called sex contact diseases. The fact that venereal diseases are essentially sex-borne constitutes the scientific basis for organizing a special association, distinct even from the national tuberculosis association.

This latter organization, although fighting a contact disease is striving for nourishing food, sunlight and fresh air, sanitary houses, proper balance between work and rest, above all for the effective destruction of sputum and the prevention of prolonged intimate association of the tuberculous sick with the well. None of these measures will in any direct way reduce the prevalence of venereal infection. In planning a national campaign against these diseases only those measures need be discussed which combat the sex-contact of the sick with the well or their direct contact through practices illustrated, for example, by the custom of kissing or "smoking the pipe of peace." It is just these forms of contact which from biological necessity and from ancestral custom are most vitally interwoven with all that is beautiful and sacred in love, marriage, and the birth of children. Hence it follows that the promotion of that standard of conduct for men and women, which we call "the single standard of morals" is of major importance among the cardinal measures upon which a successful campaign must be built up. For the same reasons, it is important to promote the minimizing of marriage between the venereally sick and the well; the safeguarding of children against these diseases, both before and after birth; the instruction of the sick in methods of preventing the transfer

of their diseases to others; and the education of the well to a realization that there are such diseases, and that their family physician and their ministers can advise them or place them in communication with others who can safely advise them should it become necessary to know more.

Only the novice in preventive-medicine campaigning can complacently look over this statement and enlist for the battle with the delusion that rapid progress can be made or that the way has been blazed by other organizations attacking preventable diseases. There is, of course, much in the details of administration of many organizations which may be directly applied, but the involved relations of moral standards, economic and social status and disease are peculiar to this one of all the preventive-medicine problems.

Granted that these diseases are communicable and preventable, the question may be fairly asked, are they sufficiently prevalent and dangerous to life and health to warrant the expenditure of time and money upon a serious effort to control their spread? Although little accurate data is as yet available, it has been proved by every kind of investigation attempted, whether medical, moral or economic, that this is one of the greatest of the preventive-medicine problems and worthy the expenditure of limitless effort and expense in the right direction.

The question may also be asked, "Are not the medical sciences making such rapid strides in mastering the principles of immunity, and specifically in the early diagnosis and treatment of venereal diseases, as to hold out hope that the spread and disastrous consequences of these diseases will be largely brought under control before much progress can be made upon any national campaign: if this were to occur, would not the money and effort spent on the campaign be wasted?" There are three points to be made in reply. In the first place, inspiring as have been the recent discoveries of medical science in these directions, there is no way to predetermine just when the trail may become lost and require years before some scientist again picks it up. Secondly, the argument of Sir Ronald Ross is pertinent. In commenting upon the application of knowledge to malaria prevention, he said, "It requires ten years for any scientific truth to reach the environment of the people." Lastly, it must be borne in mind that if there were no venereal diseases, there are

ample arguments for the promotion of a single standard of morals and for the right understanding and application of the sex principle to the social and economic relations of men and women.

If we turn now to the moral approach, and, eliminating venereal diseases from the argument, attempt to describe the enemy and point out the basis for attack, something like the following is the result:

Dr. McMillan has well said, "The efficiency of the nation depends upon the efficiency of the individual units of which it is composed. The efficiency of an individual is in direct proportion to the quality and health of his brain and nervous system. The quality and health of these brains depend upon:

"1. The kind of brains that are born within the United States;

"2. The kind of brains that migrate to this country from other lands, and

"3. Upon the interaction of these brains and the environment."

We know from such careful work as has been done by the eugenics investigators and vice-investigators that both hereditary and environmental factors play an important part in the moral breakdown of a large number of people of all ages. The work of the Committee on Infant Social Service of the Women's Municipal League of Boston has demonstrated what antenatal care can do to improve the babies' chances of being born with good health. It is generally conceded that a baby born with good health and good brains will have the best chance in a home under the guidance and with the companionship of normal happily mated parents. The conservation of the home, therefore, is the most important factor in ensuring the attainment of the highest mental and moral standing of the individual. The real home is not simply a place of residence; it is that indefinable environment dependent essentially on conditions which are the natural outgrowth of the sex-principle which brings men and women together in marriage. Unquestionably, the "consecration of the affections" as Dr. Richard Cabot has phrased it, or the maintenance of a single standard of morals, is the cardinal measure to be advocated in a campaign for the home in its most beautiful meaning. As supplementary to this cardinal measure, it is obviously important to make every effort to suppress prostitution and other forms of vice contributory to misuse of the sex impulses.

Without following these illustrations further, it will be evident that we are dealing with a great medical-moral problem which should enlist clergymen and doctors as well as parents and teachers. It would seem, therefore, that the first work to be done in public instruction in sex hygiene is convincing these, and other groups of adults who are in a position to influence young people, that there is urgent need for their co-operation, and secondly that there are practical things to do, both through example and advice to these young people, and through improvement of their environment.

The following lines of activity are now being promoted in one part of the country or another, and seem to warrant general endorsement.

First: Efforts to obtain the co-operation of physicians in reporting venereal diseases, in utilizing their opportunity as advisers in their family practice, and in advocating publicly a single standard of morals.

Second: The encouragement of diagnostic and advisory work, such as has been so successfully done by the New York Health Department and the Oregon State Board of Health; and of provision for adequate hospital facilities for venereal disease patients.

Third: Scientific, constructive, educational lectures such as have been conducted by social hygiene societies for selected groups of shop-workers, department-store girls, and other similar groups.

Fourth: The development of serious attention to the problem by parent-teacher associations under the co-ordinated guidance of medical and moral professional auspices.

Fifth: Constructive efforts to give in normal schools and universities definite information upon the sex problem, as teachers will meet it in the course of their school work. It is no doubt appropriate also to advocate this instruction in medical schools and theological seminaries, from which discussion the social side of such problems is conspicuously absent.

The question of teaching sex information in the public schools is on the firing line, and no one can say what may or may not be wisely given. Experience has generally shown little to be gained by forcing legislation in advance of forming public opinion. Similarly, history shows the same observation to be ap-



plicable to attempts to introduce, by legislation or otherwise, the compulsory teaching of physiology and hygiene in the public schools, in advance of training teachers in these subjects. It is the consensus of opinion that sex education is necessary, and that the great majority of such instruction must be given by others than the parents, but it does not follow that the schools can immediately do this work. Ultimately this subject, like all important subjects of education, will find its place in the public school curriculum through distribution in the various scientific and ethical courses adapted to its purpose, and in well-planned special lectures by experienced educators. In the meantime, patience is necessary. Here and there well-planned efforts are being made and should be observed closely. Good work should be promptly recognized and encouraged.

Mr. Abraham Flexner has well said, "Swapping absolute ignorance for misinformation will avail the people little." Much of the educational effort of the day accomplishes only this result, and, in general, this problem, like all other preventive-medicine problems, needs to be studied with special reference to attack through environment. In Tennyson's poem, *Ulysses*, that hero of story and myth, is made to say, "I am part of all that I have met." Probably there is no one in this audience but has locked in his memory some illustration of this statement as applied to times and places where sex information of an untrue and degrading character forcibly touched his environment. We cannot know, in individual instances, when or where influences harmful to the conservation of right sex impulses and standards of morality may be encountered, but we can minimize and eliminate those which are pointed out to us as important and frequent. It is difficult to draw a rational line between genuinely innocent amusements and pleasure resorts, and those with only a veneer of innocence under the cloak of which most undesirable influences are introduced into the environment, but this line should be drawn and the efforts of all social agencies should be directed toward suppressing the latter.

We cannot attack mosquito pests as in yellow fever, but we can attack the unprincipled medical charlatans who are the human pests in this field.

We cannot completely stamp out prostitution, but we can minimize it and gradually eliminate the commercialized element;

and we can do something toward lessening the part alcohol plays in its promotion.

We cannot control clandestine intercourse, but we can build up, through social centres, playgrounds, and a multitude of similar agencies, counter-attractions which will go a long way toward combatting it; and we can work for housing conditions which permit of normal family life and that degree of individual privacy necessary to the maintenance of moral standards. We can also work for that adjustment of the cost of living to the breadwinner's earnings which will remove the temptation to exploit the sex function as a means of supplementing the individual or family income.

We cannot enforce a single standard of morals, but through broadening our medical ethics to include the responsibility of physicians for protecting a man's wife and children or fiancée from his disease, we can drive home to men the importance of this standard; and by enacting sane and practical laws for a health certificate for marriage, we may still further develop an observance of this principle of conduct so vitally important to the social hygiene movement.

In short, we can bring about the correlation of all those splendid forces, active or potential in every community, which are opposed to sex-immorality and contributory to low standards of morals; and we can urge recognition of the fact that, in addition to warning people not to fall into the bottomless pit, it is vitally important to prevent them from dragging others in after them. It is even being discovered worth while to do what may be possible toward restoring to good citizenship and an honorable career those who have fallen.

If I may refer in conclusion to the American Social Hygiene Association, I would say that it hopes to be instrumental in promoting these similar lines of work throughout the United States, and seeks to become a general clearing-house for the special campaign against venereal diseases and those degrading practices which largely owe their prevalence to ignorance of the important part which the sex principle plays in the life of the nation as well as of the individual. Its officers believe that this battle must enlist both the medical and moral forces of the country; that it cannot be successfully fought without this alliance, and that independent of the prevention of disease, the results to be

gained in minimizing the number of broken homes, shipwrecked lives, handicapped children, and preventable suffering in general which grow out of misuse of the sex impulses, warrant a national effort of the proportions planned.

The name American Social Hygiene Association may require some explanation. It was selected because general usage in public discussion through the newspapers, magazines, and lectures has practically set aside the phrase "social hygiene" for designating all subject matter related to the preventive medicine battle against venereal diseases and the moral battle against commercialized vice.

The constitution of the association defines its purpose to be:

To acquire and diffuse knowledge of the established principles and practices and of any new methods, which promote, or give assurance of promoting, social health; to advocate the highest standards of private and public morality; to suppress commercialized vice; to organize the defense of the community by every available means, educational, sanitary, or legislative, against the diseases of vice; to conduct on request inquiries into the present condition of prostitution and the venereal diseases in American towns and cities; and to secure mutual acquaintance and sympathy and co-operation among the local societies for these or similar purposes.

The chief function of this association would seem to be to promote scientific and thorough investigation, and observation of experimental efforts in its field, and to turn over the findings promptly to other organizations equipped to apply them to the environment and education of the people.

In conclusion, the foregoing viewpoints may be summarized by pointing out that in these diseases, as in other communicable contact-diseases, the medical profession, with the assistance of the nurses and druggists, has in its power the opportunity to largely control the secondary cases; the clergy and teaching profession, by the effective development of the observance of moral standards, have in their power the opportunity to increasingly lower the number of primary cases. The American Social Hygiene Association, through co-operation with these professions, the public press, and other agencies active in forming public opinion, hopes to play its part in the accomplishment of a great moral as well as a great medical triumph.

THE SEX QUESTION FROM THE WOMAN'S  
STANDPOINT

*Extemporaneous Address before the Capital District Conference of  
Charities and Correction in Albany, N. Y., March, 1914.*

By ROSALIE SLAUGHTER MORTON, M. D.,  
*New York City.*

In this symposium I have been asked to present the woman's point of view and I feel gratified that this should have fallen to my lot, because I believe that the coming of women into a sense of civic responsibility offers the greatest hope in the solution of this problem; and, in seeing so many earnest women here to-day who have come because they want seriously to help improve the world in a constructive, practical, well-balanced way, adds to my faith regarding what women may do, and what they are doing.

The subject which has been assigned to me is "The Sex Question from the Woman's Standpoint." This may be divided under such headings as, the education of women in sex-hygiene, the importance of such education to woman, and through her to the race, the relation of woman's health to her efficiency as wife, mother and citizen, the education of ignorant mothers, the education of women teachers, the education of women in trades, social responsibility of women, young, middle-aged, and old. The subject is too comprehensive to be adequately presented in a twenty-minute address, so I will only try to draw your attention to a few points which may be suggestive of further study.

Whether or not women should be educated on this subject, has perplexed thoughtful men from the beginning of time until twenty years ago. Some have thought it was a kindness to shield women from a knowledge of the seamy side of life; some have believed immorality an ineradicable part of the social fabric, and have falsely supposed that what women did not know could not hurt them; others have believed it a man's business to run the world as seemed to him best or most agreeable. The majority erroneously believed it contributed to the happiness of both men and women that women should be ignorant. So any reference to this subject has been frowned down upon, even if a mother, with a number of children under her guiding care, asked her husband in the privacy of their own room any question which



had to do with the standards of sex morality. She would receive the reply, "that is not a subject for you to think of."

It is not possible to overestimate the courage which it took twenty years ago for Dr. Prince A. Morrow of New York City to establish a general attitude of tolerance, and even approval, of the straightforward teaching of sex hygiene to both men and women. It was an enormous step forward and an honor to this era.

I count it a privilege to have lived when Dr. Morrow, illuminated by the urgent need for such work, should have had not only the courage to start it, but forsaking a lucrative practice devoted his time, money and unfailing energy to establishing a higher standard of morality than the world had hitherto known. His recent death is so great a loss to humanity that a special obligation is laid upon all who knew him to carry forward this work with the dignity, sureness of purpose and unselfish dedication to a high ideal which characterized his every effort. I pay this tribute to his memory as an act of justice; for often the obstacles the pioneer had to meet are underestimated, because the excellence with which they were overcome, makes them seem, to those who follow, less than they really were, and the way becoming less difficult is apt to be hewn out less thoughtfully. Many men and women who were his coworkers are imbued with the spirit of his work and carry it forward in the Society of Sanitary and Moral Prophylaxis and in the American Social Hygiene Association.

Men kept women ignorant through the centuries. It is a compensation that they should have started this most important movement of modern progress. The women as well as the men in these societies believe that they should look at this problem from all sides, but calmly, and that the education they have worked so hard to get started should not be permitted to spread like wild fire, but be wisely controlled.

In the last year or two many of us have felt some anxiety regarding several plays, addresses and moving pictures on this subject which have been hypersensational, and these increase our responsibility to direct the work so that it shall not be set aside through extreme presentations. It is very possible for excellent work to be lost through those, who lacking judgment, overdo it, or, by a high purpose being simulated for commercial gain, the

whole movement receives a set-back which causes many people to fail to see its initial and profound importance.

The pendulum usually swings too far out before it finally adjusts itself to properly regulate the clock, so, in regulating society a great social movement may swing too far each way and take some years to assume a balance, and there may be an eventual benefit in this primary lack of adjustment in bringing to our attention possibilities we have not recognized, and in causing a study from divergent points.

It would be a mistake, and a misfortune, if any one should leave this meeting in doubt as to whether sex ignorance may not be better than sex education. That would, for that person, be the loss of a quarter of a century of earnest work by earnest people.

From my knowledge of the point of view of many men who are not doctors, and of many colleagues in my profession, I believe that the higher and better type of men are welcoming the co-operation of women in the world's work. It is absolutely necessary, to establish the proper training of children, that the mother's point of view be regarded as of as great value as that of the father; and the wise father wishes to have his wife intelligent upon every subject affecting the welfare of his children; there is no other subject more important to them than sex education.

The development of this movement would not have been possible twenty-five years ago, for it was necessarily preceded by the general education of women. The free compulsory education of this country gives an equal opportunity to girls and boys, and statistics show that on account of economic pressure, boys leave school earlier than girls; the necessity for some, and the desire of others, to make money as newsboys, or in other unskilled occupations, causes many to leave school as soon as they can get their working papers. Girls remain in school longer and statistics show that when they leave they have advanced, on an average, two grades further than boys. Far more girls than boys complete their primary school course, and almost an equal number fit themselves for some trade.

The average of education among American women is raised not only by those whose families can afford, or are progressive enough to send their daughters to high school and to college,

but by those who have, to a large extent, educated themselves, working their way through normal school; and after they have become teachers using their vacations for travel and study, or through summer college courses, adding to their education. The large number of women who in groups of all sorts, church and charity organizations, clubs, etc., are educating themselves on the questions of the day and doing serious work in the preparation of papers through study and investigation, as well as conducting much well-planned work, have made themselves a civic force to such an extent that it is customary for men to seek their co-operation by getting permission to present before them their plans for municipal improvement. There is also a large army of women, young, self-supporting and in many instances carrying a goodly share of the responsibilities of life, who are educating themselves in night schools. Many of them daughters of immigrants, who have the pluck and perseverance after their day's work, in domestic employment, or as milliners' or dress-makers' assistants, in factories, stores, etc., to go systematically to night school from the primary through the high school; recently I spoke to 2,000 such women students, of varying ages, in one of the New York City Evening High Schools, and was greatly impressed by their earnestness of purpose and achievement.

Another large group of women are those educated through the classes and club work of social settlements, which are active in all our large cities.

We have thus through a multiplicity of channels a high average of education and intelligence in women, and their employment in practically every profession and industry in the United States, gives them a knowledge of the world which makes it possible for women to approach a consideration of sex hygiene with the same calmness and balance with which it is approached by thoughtful, well educated men.

The fact that this symposium was arranged as part of this conference shows that the Charities and Correction Committees believe in a public discussion of the subject, that the New York State Department of Health approve, is evidenced by the courses of lectures given to large groups and organizations throughout the State for the last three years. We have passed from the debate as to whether it was necessary, to how it shall be done.

The importance of the education of women on this subject is to be emphasized, for without it they cannot help in the solution of this, the gravest of the world's problems, and obviously it is impossible for men alone to find the solution of this, or any social question, for they cannot see it in its entirety. Neither can women solve it alone, for each sees the difficulties, temptations and penalties, primarily, only as they affect their half of the human race. The mutual assistance to be gained by fair-minded comradeship is a necessity, and the highest human ideal is that of joint service to our country and the world. The attitude of American women to-day toward themselves and others in meeting the responsibilities of life is of great significance, because critical observers in other countries are watching the women of the United States to see whether, and how, they "make good." If we do contribute something to the world's welfare; if we make better wives and mothers; if we bring better children into the world; if we ourselves are a stronger race because we have education, freedom and an out-of-door life, then the women of the rest of the world will have an opportunity which heretofore has been denied them, and it is interesting to find that it is being withheld, until the experiment being worked out in America proves its right to be considered a forward step in evolution.

Until last summer, sometimes when listening to the arguments used against various phases of modern progress, I wondered if the iconoclasts were right in predicting that we are rushing on to ruin, and that the so-called "good old times" were best. The only way to get a comprehensive idea of the whole situation is to get far enough away from it to see it as a whole. We are usually so occupied that we only see clearly that which is nearest. I, therefore, welcomed the four months' trip I made to South America to visit their hospitals and universities as an opportunity to compare many phases of their social life with ours. While there are great differences in many respects between the various republics which constitute South America, in all of them the social relations of men and women are very similar, and much like they were in the United States sixty years ago, before women began to go to college and before the economic pressure became so great that women in large



numbers were obliged to enter commercial fields. In South America they have an idea that society is to a large extent fixed and finished, class distinctions are marked, grace and elegance are valued above earnestness of purpose and intellectual ability. Women sacrifice social position if they work. Teachers from the United States who go there are not accepted by the same class of people who were their intimate friends at home. The women with sufficient courage to go to college find themselves set apart from their former associates. The men spend most of their evenings at the club or the café. There is no comradeship between men and women; both suffer without knowing it by this loss. There are scant opportunities for young men of the lower class, there is none of the unrest which some deplore in the United States. But when I returned to this country I saw our unrest meant progress; for there is something striking in the faces of the men and women as they walk along the streets with quick buoyant tread, a look of hopeful purpose and definite attainment, their own industry being the measure of their success. It was thrilling to note the progress of evolution in our country, so much of which has come through free opportunity for all, and with the education of our half of the human race an increase of what the mother has to give to her children, as well as the stimulus it is to both men and women to work together for the development of their country.

The mental and physical, as well as the moral, stamina of our citizens depends so much on wise education in Sex Hygiene. I have been greatly interested to observe to-day that the trend of discussion is toward its presentation in schools. This has been and will be so ably handled that I may be "sending coals to Newcastle" to make any suggestions, but I would like to have your opinion of the possibility of the following method of educating adults in sex hygiene.

As free schools confer a great benefit on those who have children, could they not arouse a sense of obligation on the part of parents to co-operate with them in this line of education, which is the most vitally important to their children's welfare and happiness, by giving them on the day they enter the child at school a brief printed outline of the necessity for this education, and the advisability of its being given to the child by its nearest

relative? The mother, father, aunt, guardian or whoever enters the child at school being required, or made to feel the necessity of his or her attending a course of afternoon or evening lectures, for parents and teachers, which would be given gratuitously by the school. Such lectures would enable them to co-operate with their children's teachers and instruct them how to handle this subject, from answering the questions of the little child, to inspiring the adolescent youth to a noble and dignified realization of its potential powers. Many adults need this education just as much, or more, than the children under their care, and this would be the means of reaching both in the way least tended to wound their sensibilities. I believe people want to do what is right, and have done marvelously well, when we consider the mass of ignorance and misinformation which has surrounded the previous acquisition of this knowledge. Mothers, I am sure, want to do the best they can for their children, and vaguely realize the danger of not meeting their children's questions, but they are panic stricken by the idea, for they have no words in which to clothe what they wish to say, because they were left to pick up their knowledge as best they could from servants or ignorant companions, it is difficult for them to strip their minds of suggestions of vulgarity. Adults need to be taught the essential purity of this subject which is more spiritual than physical. We all agree that the mother or father is the ideal person to answer the child's questions according as the opportunity presents itself to one or the other. To children who have no parents, or those who do not speak our language, there is always some relative, or a teacher, who should be given the information which would help them to help others. Do you not think if classes of this kind with suitable teachers became part of the school work of our country this problem would be partly solved?

During the past winter there has been at the New York University such a course of ten afternoon lectures for teachers and they were not only well attended but many intelligent and far-reaching questions were asked. Following these there were some interesting interviews regarding individual problems which were very helpful to the lecturers for future educational work.

If such courses were established for men and women in all universities and normal schools, the interdependence of this sub-

ject on chemistry, biology, physiology and sociology would be found of great practical value. We have all seen many unhappy homes, many broken hearts, many parents disappointed in their children, many children disappointed in their parents, their friends, their aspirations, wrecking their lives through ignorance. Looking frankly at the results of a lack of teaching, realizing that there is much to consider, much to evolve in the methods of this, as there has been in the methods of all education, after giving most serious consideration to all objections urged against it, I stand definitely approving of sex education, for, I do not believe it is possible for education to result in such gross evil as has grown for ages out of the lack of it. The moral status brought about through wise and true education must be higher than any moral condition which could exist as a result of ignorance.

The teaching of young business women is a division of this subject which is important and comprehensive. The majority of these could not be reached through schools or colleges and they need the education for their own protection. Fortunately they may usually be reached in large groups such as the Woman's Trade Union League, the Young Women's Christian Association, etc. In order not to overaccentuate one function it has seemed advisable to arrange a course of at least five lectures, for example, the series given at the Woman's Trade Union League and paid for by these young women was as follows:

1. The Cause and Prevention of Ordinary Colds.
2. Food in Relation to Physical and Mental Efficiency.
3. Exercise and Rest in Relation to Health.
4. The Care of the Health at the Menstrual Period.
5. The Responsibility of Girlhood to Motherhood.

In the first lecture the function of the lungs and their relation to the rest of the body, as brought out under the dietetic, and fatigue, as well as the exposure, causes of colds.

The second lecture explained the process of digestion. The values of various foods, the relation of the stomach, liver and intestines to the output of energy in daily life.

The third lecture emphasized the importance of a proper sitting and standing position to give all organs room to do their work; the amount and kind of exercise which is helpful, the

necessity and manner of nerve and other tissue repair during sleep.

By the time the fourth lecture was reached they were prepared to understand the importance of menstruation in relation to the other functions of the body; their civic responsibility to keep well had been made clear as their duty to themselves, their families, their employers, and they were anxious to learn how to conserve their health by proper care at this time.

In the fifth lecture, sex hygiene and eugenics, an earnest effort was made to impress upon these future mothers the extent to which the health and happiness of their children is in their keeping, the importance of their being physically, mentally and morally, fit to be mothers, and the necessity of their exercising discretion in the choice of their children's father, if they would meet their responsibility for the progress of the race.

Questions from the floor were asked after each of the lectures. The weariness of the day's work did not prevent the girls from coming to all the lectures and asking permission to bring their friends. Each one lasted forty-five minutes with twenty minutes allowed for questions, and the information gained in a total of five and a half hours will probably make a difference to most of them in their efficiency and viewpoint for the rest of their lives.

The majority of the young men and women of the high school and college age are past the help which would have meant much to them earlier, and such lectures as are given by Mr. E. C. Mercer, Dr. Ira Wile and many others, to college men, Y. M. C. A.'s and other groups of men and boys are invaluable, and while reference to these may seem to you outside the scope of my paper, part of the woman's aspect of this question is the fundamental importance of the education of men and boys to a clean and healthy moral standard.

The education of the more sheltered or society girls and women between seventeen and thirty years of age, I have found from practical experience to be free from the difficulties with which it is supposed to be enmeshed; for every young woman thinks of marriage, more or less definitely, and most of them have had perplexities and anxieties about why they should have



a two or three days monthly visitation of a condition popularly called by many of them "the curse," and attributed to Eve as the punishment placed upon her when she was banished from the Garden of Eden.

When these young women are given an intelligent idea of the interrelation of the functions of the body and that normally all functions are free from pain and come to understand that they have had entrusted to them tissues which have the marvelous faculty of storing in their cells something which later we call heredity, and that women have the capability of nourishing and protecting the tiny helpless forming child, so that in a way the menstrual period is God's promise to her that she may become a mother, there is a glorification in the knowledge that she is from her little girlhood building the future of her children, she realizes then that the body is to be cared for as the temple of the soul. Most of our young people have practical ideals and they appreciate being approached in a straightforward manner regarding why God has made us as we are, and without this knowledge they can hardly be expected to take intelligent care of themselves. The responsibility to souls in the making, is a powerful religious stimulus outside all denominations and all nationalities but at the same time an integral part of all; and the spiritual uplift which comes with a realization of this, makes temptation fall off like arrows against armour.

One of the examples which demonstrates to students the power of heredity is the book Jukes-Edwards, published by R. S. Meyers Co., Harrisburg, Pa., 1900, 88 pages, by Winship on the Jukes and the Edwards. A study was made by Mr. R. A. Dugdale in 1877 and is to be found, in part, in the twentieth annual report of the New York Prison Association. He made a three year's study of one family, the Jukes, meaning wanderers, and gave the exact facts regarding 450 of the descendants for 150 years of a man called Max. In that time, they aggregated 1,200 persons. 300 out of the 1,200 died in infancy. There were 50 women who lived lives of notorious debauchery; 400 men and women were physically wrecked early by their own weakness; there were 7 murderers; 60 were habitual thieves who spent on an average of 12 years each in lawless depredations. There were 130 criminals convicted more or less often of crime. What a

picture this presents. Some slight improvement was apparent when Mr. Dugdale closed his studies. This resulted from evening schools and from manual training, from improved conditions of labor and from the later methods of treating prisoners. This one family in 150 years cost this State in crime and pauperism more than \$1,250,000. Taken as a whole, they not only did not contribute to the world's prosperity, but they cost, for pauperism and crime, including all men, women and children, more than \$1,000 apiece. Those who worked did the lowest kind of service and received the smallest wages. Only 20 of the 1,200 learned a trade and 10 of those learned it in the State Prison. Even they did not seek regular employment. 310 out of the 1,200 were professional paupers, or, more than one in four. This family was in the poorhouse, or its equivalent, in the reformatories, and so on, taken as a whole, 2,300 years. That is the dark side of the picture.

By contrast to this, the Edwards family was studied for a period of 150 years, the descendants of Jonathan Edwards, born 1703 in Connecticut, make a summary of 1,400 people. They were ministers, President of Yale, Princeton, Amherst and ten other colleges. Many were professors, presidents of banks and railroads, missionaries, legislators, ambassadors, state treasurers. There were mayors of cities, New Haven, Cleveland and Troy; three Governors of Connecticut, Ohio and South Carolina; a number were United States Congressmen and Senators. Many were officers, chaplains or surgeons of the army and navy; and they were prominent in the mercantile, industrial and professional life of thirty-three States.

If you compare these two families, one, altogether degenerate, constituting a disintegrating force, inciting others to criminality and encouraging vagabondage in their associates, the other family, an equal number, uplifting, building, inspiring in every generation, and note that the Jukes never married worthily and that the Edwards never married unworthily, that it was the men and women of that family with a sense of personal and civic responsibility, and others like them who have made this country what it is, for good is stronger than evil and they have contributed far more than the Jukes could destroy. In human values we should count the utter misery of many of the Jukes' and the

sorrow to all with whom they came in contact, and in the Edwards' the inspiration and benefit which came to those around them as well as their own satisfaction in making the best and most of life. This is sufficient to make those who consider the comparison determine to do all that in them lies to bring about a wholesome knowledge of sex hygiene which will enable young men and women to be worthy themselves, and by the selection and co-operation of their mates, to endow and educate their children so that they will be assets of, and not liabilities in, our commonwealth. In helping to bring this about, the education and participation of women in this work will, I believe, go a great way toward opening the door to women of other countries to join with men in the general uplift of the whole world.

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## ALBANY HOSPITAL.

TWELFTH REPORT OF PAVILION F, DEPARTMENT FOR MENTAL DISEASES, FOR THE YEAR ENDING SEPTEMBER 30, 1914.

By J. MONTGOMERY MOSHER, M. D.,

*Attending Specialist in Mental Diseases.*

### *To the Board of Governors:*

I have the honor to present the twelfth report of Pavilion F, for the year ending September 30, 1914.

There remained in the Pavilion on October 1, 1913, thirty-one patients—eighteen men and thirteen women. There have been admitted two hundred and ten men and one hundred and forty-three women. The whole number of patients under treatment was, therefore, three hundred and eighty-four.

There have been discharged three hundred and fifty-two patients—two hundred and eleven men and one hundred and forty-one women, and there remained in the Pavilion at the end of the year, seventeen men and fifteen women.

The following tables show the forms of disease and the results of treatment for the year, and since the opening of the Pavilion:

TABLE I.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT FOR THE YEAR ENDING SEPTEMBER 30 1914

FORM OF DISEASE	Recov- ered		Im- proved		Unim- proved		Died		Remain- ing		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium.....	5	3	1	2	...	2	1	...	...	...	7	7	14
Confusional insanity.....	1	1	5	3	3	12	...	...	2	3	11	19	30
Melancholia.....	5	1	3	15	2	13	1	1	1	2	12	32	44
Mania.....	...	...	...	4	4	2	...	...	1	...	5	6	11
Primary dementia.....	1	...	4	3	6	5	...	...	...	1	11	9	20
Recurrent insanity.....	...	...	...	2	3	4	...	...	...	1	3	7	10
Chr. delus. insanity.....	...	...	...	...	2	3	...	1	1	...	3	4	7
General paralysis.....	...	...	2	...	3	4	...	...	...	...	5	4	9
Terminal dementia.....	...	...	7	4	12	17	5	3	4	3	28	27	55
Idiocy and Imbecility .....	...	...	2	2	6	1	...	...	1	...	9	3	12
Alcoholic delirium.....	20	1	2	1	...	...	2	...	3	...	27	2	29
Alcoholism.....	...	...	44	7	4	...	2	...	2	...	52	7	59
Drug addiction.....	5	3	5	2	3	2	1	...	...	3	14	10	24
Hypochondriasis.....	...	...	1	...	1	...	...	...	...	...	2	...	2
Epilepsy.....	...	...	1	2	...	1	...	...	...	...	1	3	4
Neurasthenia.....	...	...	1	1	...	1	...	...	...	...	1	2	3
Hysteria.....	...	2	...	4	...	1	...	...	...	...	...	7	7
Organic brain disease.....	...	...	...	...	6	...	...	...	2	1	8	1	9
Cerebral concussion.....	...	...	...	...	1	...	...	...	...	...	1	...	1
Meningitis.....	...	...	...	...	...	...	2	...	...	...	2	...	2
Cerebro-spinal syphilis.....	...	...	2	...	...	...	...	...	...	...	2	...	2
Jaundice.....	...	1	...	...	...	...	...	...	...	...	...	1	1
Tuberculosis.....	...	...	1	...	...	...	12	1	...	1	13	2	15
Pneumonia.....	2	...	...	...	...	...	1	...	...	...	3	...	3
Organic heart disease.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Locomotor ataxia.....	...	...	1	...	...	...	...	...	...	...	1	...	1
Carcinoma.....	...	...	...	...	1	...	...	...	...	...	1	...	1
Nephritis.....	...	...	1	1	...	...	...	1	...	...	1	2	3
Pleurisy.....	...	...	1	...	...	...	...	...	...	...	1	...	1
Tic douloureux.....	...	...	...	1	...	...	...	...	...	...	...	1	1
No diagnosis.....	...	...	...	...	...	...	...	...	...	...	3	...	3
Totals.....	39	12	84	54	57	68	28	7	17	15	228	156	384



TABLE II.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT SINCE THE OPENING OF THE PAVILION, FEBRUARY 18, 1902

FORM OF DISEASE	Recovered		Improved		Unimproved		Died		Remaining		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium.....	40	52	20	24	7	18	14	12	...	...	81	106	187
Confusional insanity ..	13	11	35	39	31	55	5	5	2	3	86	113	199
Melancholia.....	30	42	46	118	54	111	2	10	1	2	133	283	416
Mania.....	7	16	15	30	33	44	1	...	1	...	57	90	147
Primary dementia....	4	6	29	17	55	29	...	...	...	1	88	53	141
Recurrent insanity ...	1	...	13	24	17	23	...	...	...	1	31	48	79
Chr. delus. insanity....	...	...	3	7	48	48	...	1	1	...	52	56	108
General paralysis.....	...	...	5	1	59	9	4	...	...	...	68	10	78
Terminal dementia....	...	...	44	38	138	117	30	22	4	3	216	180	396
Idiocy and imbecility ..	...	...	24	14	42	38	1	...	1	...	68	52	120
Alcoholic delirium....	261	17	32	7	4	2	32	2	3	...	332	28	360
Alcoholism.....	19	5	279	29	29	5	4	...	2	...	333	39	372
Drug addiction.....	16	9	16	11	5	6	3	3	...	3	40	32	72
Ptomaine poisoning ..	1	2	...	...	...	...	...	...	...	...	1	2	3
Nephritis.....	...	...	2	1	1	...	8	3	...	...	11	4	15
Eclampsia.....	...	1	1	...	...	1	...	1	...	...	1	3	4
Epilepsy.....	...	...	21	6	21	8	1	...	...	...	43	14	57
Neurasthenia.....	4	1	25	18	6	14	...	...	...	...	35	33	68
Hysteria.....	2	13	2	27	1	6	...	...	...	...	5	46	51
Chorea minor.....	1	1	...	1	1	1	...	...	...	...	2	2	4
Exophthalmic goitre....	...	...	...	1	...	...	...	...	...	...	...	1	1
Tic douloureux.....	...	...	...	1	...	...	...	...	...	...	...	1	1
Hypochondriasis.....	...	...	14	...	6	...	1	...	...	...	21	...	21
Organic brain disease..	...	...	13	8	21	6	11	7	2	1	47	22	69
Cerebral concussion ..	4	1	3	...	1	...	...	...	...	...	8	1	9
Oedema of the brain ..	...	...	...	1	...	...	1	...	...	...	2	...	2
Locomotor ataxia.....	...	...	2	2	...	1	...	1	...	...	2	4	6
Cerebro-spinal syphilis	...	...	2	...	...	...	...	...	...	...	2	...	2
Myelitis.....	...	...	...	...	...	...	...	2	...	...	...	2	2
Arthritis deformans ..	...	...	...	...	...	1	...	...	...	...	...	1	1
Meningitis.....	1	...	1	...	...	...	9	1	...	...	11	1	12
Multiple neuritis.....	...	...	1	...	...	1	...	...	...	...	1	1	2
Paralysis agitans.....	...	...	...	...	2	...	1	...	...	...	3	...	3
Hydrophobia.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Tetanus.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Tuberculosis.....	...	...	3	...	2	1	23	4	...	1	28	6	34
Typhoid fever.....	3	1	...	...	...	...	...	...	...	...	3	1	4
Jaundice.....	...	3	...	...	...	...	1	1	...	...	1	4	5
Pneumonia.....	2	...	...	...	...	...	9	2	...	...	11	2	13
Heart disease.....	...	...	3	...	...	...	4	...	...	...	7	...	7
Pernicious anaemia....	...	...	...	1	...	...	...	1	...	...	...	2	2
Chlorosis.....	...	...	...	...	...	...	...	1	...	...	...	1	1
Septicaemia.....	...	...	...	...	...	...	...	1	...	...	...	1	1
Gastro-enteritis.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Fracture of skull.....	...	...	...	1	2	...	4	1	...	...	6	2	8
Multiple fibromatosis..	...	...	...	...	...	...	...	1	...	...	...	1	1
Carcinoma.....	...	...	...	2	...	...	...	...	...	...	2	...	2
Strangulated hernia ..	...	...	...	...	...	...	1	...	...	...	1	...	1
Pleurisy.....	...	...	1	...	...	...	...	1	...	...	1	1	2
Malingering.....	...	...	...	...	1	...	...	...	...	...	1	...	1
No diagnosis.....	...	...	...	...	...	...	...	...	...	...	24	15	39
Totals.....	409	181	655	425	590	545	173	83	17	15	1868	1264	3132

The steadily increasing demand for treatment is shown in the statistics for the year. There have been more admissions than in any like period, and at times there has been difficulty in providing accommodations. The normal capacity of the Pavilion is thirty-three beds, seventeen on the first story for women and sixteen above for men. The greatest number of patients in any one day was thirty-eight and the smallest, eleven. The average duration of treatment was twenty-three days. There is thus a rapidly moving population, and the patients may be classified as "acute," in both interpretations of the word: that is, the disease is of recent origin and of relatively brief duration, and the symptoms are pronounced and severe. One hundred patients have been legally declared insane and have been committed to institutions for the insane; one hundred eighty-nine have returned to their homes, either entirely restored, or so improved in health as to justify the belief that convalescence would be completed, and that the need of hospital care had been successfully met.

The large number of patients who have been benefited after a short period affords many grounds for reflection. When this department of the hospital was proposed its first function was temporary care of cases of insanity, that they themselves and their homes might be protected from the results of their disordered acts. The expectation was also held that some patients might be restored by the means at hand without the need of a declaration of insanity. It has been our good fortune to witness the gradual increase of the latter class. This experience has led to consideration of what really constitutes insanity, and the recasting of ideas long held as to the significance of disordered action of the mind. The important truth has been established that patients, who, a few years ago, would have been regarded as insane, and would have been sent to an institution for the insane, are found not only to yield to the treatment provided by a general hospital upon the same grounds as patients of other classes, but to be willing, and often eager to avail themselves of this opportunity. It is important to distinguish if possible wherein lies the distinction. There are many individuals, who from birth or early life reveal defects which place them outside the pale of society; there are others who, with a normal start, succumb to some crisis and become permanently alien and de-

generate. There remains a third class who develop marked mental symptoms in association with physical disease, either from the severity of the affection or from susceptibility of the nervous system. These patients require prompt, energetic treatment, and respond favorably. The evidences of physical disease are often patent to the casual observer, or are demonstrable by diagnostic methods. The mental symptoms follow functional disturbance of the brain. These differ in different individuals, and are not susceptible to definition. If any technical term be sought, it is, perhaps, found in the word "apraxia," which has been marshalled to the service of the ever-growing nomenclature of neurology to indicate that the individual cannot do what he wishes to do. This defect results from disorganization of the higher function of the brain, represented normally by perfect co-ordination of thought with muscular action. It is analogous with the more common term "aphasia," designating a cerebral disturbance in which the patient cannot say what he wishes to say. Accomplishment is thus at odds with purpose. Were the analogy carried one step higher a phrase would be found to designate the condition in which the patient cannot think as he would wish to think, and the process of thought might be described in terms of the cerebral mechanism through which it has its expression. The disorganization of this mechanism is apparent. The contrast between the normal mental processes of an individual and those manifested during disease, leaves little doubt of suspension or perversion of the faculty of volition.

The origin of such disorder is either exhaustion of the cerebral structures or the presence in the blood of some morbid agent. In the majority of cases probably both causes are operative. In any event the remedy is apparent: removal of deleterious agents and restoration of nutrition. The problem is purely medical. Were further proof necessary it is found in the numerous instances of such purely physical diseases as tuberculosis, diabetes, pneumonia, nephritis, erysipelas, and the like, which have a prominent place in the admissions.

There are two prominent reasons for the establishment of a department of this kind in a general hospital: first, the opportunity for prompt and early treatment; and, second, the prevention of the shock attending legal proceedings and removal under arbitrary circumstances from home and friends. The home is

ill adapted to the care of mental cases, and the family are not trained. That their absence is essential, however, is not the corollary. Much assistance may be had by their attendance, and many difficulties overcome by the intelligent direction of the sympathy of those who know the patient best. It has been the practice to secure this co-operation in every severe case that the agitation incidental to new faces and strange surroundings may be overcome.

All of these considerations and the results of treatment justify the establishment of this department and the plan of administration adopted by the Hospital. It is with some gratification that we witness an official approval from an authoritative source of the principles established only after hard-earned experience. On July nineteenth, last, steps were taken in London to provide greater facilities for the "non-compulsory treatment of early and uncertifiable mental cases." A recommendation was made to the Local Government Board by many medical practitioners and members of Parliament, as follows:

We, the undersigned, desire to advocate the provision of greater facilities for the treatment of incipient mental cases without certification. The strong popular prejudice, the loss of liberty, and the atmosphere of certified asylums combine to deter patients and their friends from seeking early and efficient treatment. We consequently recommend that certification should be restricted to those cases in which, from the serious nature of the malady, it has become necessary, and that incipient cases should have more opportunity of temporary preventive treatment in reception homes, observation wards of poor-law infirmaries, or the wards of general or special hospitals.

The views of those who were interested in this reform were expressed in the following memorial:

We respectively urge that the Local Government Board should, with a view to the prevention of insanity, enable and encourage county and borough councils and other local authorities to supply or aid the supply of homes intended for the treatment of early and uncertifiable mental cases at the period when they can most easily be cured, such institutions to be subject to the approval of the Local Government Board; that patients, if suitable, should enter such homes as they would a hospital, on an absolutely voluntary footing, and without certification, authorization, or compulsion. They should be controlled during their stay by the rules of the institution, but be free to leave it after giving a specified notice.



Unless urgency demands certification and immediate removal to an asylum, no patient who has entered shall be certified except by independent doctors after his departure from the institution. Private patients would pay on terms similar to what they now pay in county asylums. Pauper patients of the class who are now received for observation in poor-law infirmaries, and who are found not to be certifiable, should receive treatment appropriate to their case. Both private and pauper patients should be dealt with on modern hospital lines. No change is proposed in the lunacy laws or in their administration.

The object of the treatment here recommended is to prevent people becoming certifiable. It is particularly desirable that these institutions should not be regarded as "half-way houses" to asylums. With a view to encouraging the public to come to them for the early treatment which is so necessary as a preventive of insanity, it is essential that the institutions here proposed should be kept wholly outside the jurisdiction of the Board of Control. The patients contemplated are not in any sense "mentally deficient;" neither have they been certified as "of unsound mind." Hence the Board of Control whose function it is to deal with people belonging to the aforesaid two classes, is not concerned with individuals such as are here described previous to certification.

We would also respectfully urge that the local Government Board, as the authority concerned with public health, has an interest in encouraging the prevention of all forms of illness, bodily or mental, which may result in those who are affected by them becoming a permanent charge on public funds. We cannot regard with idle complacency the annually increasing and alarming accumulation of the registered insane in our asylums. The spread of insanity is not being checked by the way in which it is at present treated. Some measure is required of further reaching scope, which shall antagonize the causes that lie at the root of early mental instability. We would point out that a preventive measure of this nature, if successful, would not only be a great gain to the community, but would materially reduce the expenditure on costly asylum accommodation which has become a burden pressing very heavily upon the rates.

#### TREATMENT OF PATIENTS

The usual plan of treatment has been carried on during the year. The greater number of patients come to this department in a condition of exhaustion, more or less extreme, and the mental symptoms are incident upon this, or more properly speaking, a part of it. The first requisite is rest, and this being provided, efforts are made to restore normal function of the body. The details have been explained from time to time in earlier reports.

In one group of cases, which has had growing attention during the last few years, both at home and abroad, energetic efforts to

counteract the ravages of disease have been made. This allusion is to the disastrous action upon the nervous system of the poison of syphilis. The victims of this disease have been classified among the incurable, and the appearance of mental symptoms has been regarded as determining an early, fatal termination.

A beginning has been made during the year in what has been called the "intensive treatment" of general paralysis, a disease which has hitherto defied the resources of medical science. It was first described in 1826 by two French observers, Bayle and Calmeil, who noted the coincidence of a peculiar and distinctive group of mental symptoms with rapidly progressive physical decay eventuating fatally in a short time, in from two to three years. These manifestations, mental and physical, pointed to a destructive process in the cerebral cortex, which was confirmed by pathological investigation. The morbid condition consisted of a more or less acute inflammation of the meninges, beginning in the smaller blood-vessels at their point of entrance into the brain, thus constituting a form of meningitis. The lesions and the clinical history suggested antecedent syphilis as the cause, and universal study confirmed this observation, leaving only a small percentage of cases, about ten, in question. But the disease did not yield to the remedies usually effective in syphilis, beyond an occasional amelioration of symptoms and slight prolongation of life: the presence of general paralysis established the practically invariable result.

In explanation of this apparent inconsistency a secondary poison, a derivative of syphilis, was assumed, and general paralysis, with its congener, locomotor ataxia, was described as a metasyphilitic or parasyphilitic disease, beyond the reach of treatment. Thus the problem remained until, after energetic investigation, the organism of syphilis, the so-called *spirochaeta pallida*, was discovered by Schaudinn in 1905, followed by the laboratory test of Wassermann in 1906, for its detection in the fluids or tissues of the body. By the simple and harmless operation known as "lumbar puncture," devised by Quinke in 1891, the cerebro-spinal canal may be reached, its fluid obtained for examination and local medication introduced. Thus in patients presenting symptoms on the part of the nervous system suggestive of syphilis, it is possible to submit both the blood and the cerebro-spinal fluid to tests for the discovery of the organism.

If the response to the Wassermann test be a positive demonstration of the presence of syphilis, a further analysis by what is known as the "butyric acid reaction," reveals whether or no an inflammatory process is associated, and enumeration of the leucocytes determines its activity. In fulminating cases there may be an increased amount of pressure of the cerebro-spinal fluid.

By this complicated and elaborate technique means are afforded for the detection of syphilis of the central nervous system and its activity. In general paralysis these examinations have demonstrated its presence, and this has been confirmed during the last two years by the discovery in a few cases of the organism in the brains of patients dying of this disease. Thus some doubt has been thrown upon the assumption of a derivative poison as accounting for metasyphilitic and parasyphilitic conditions, and general paralysis may indicate the presence in the central nervous system of syphilis itself.

The resistance of general paralysis and locomotor ataxia to the remedies usually effective in the treatment of syphilis still presents a problem for solution. The remoteness of the brain and spinal cord, their inaccessibility to ordinary avenues of treatment, and the possibility of an insidious structural degenerative change of tissues are possible explanations of the failures of the past. It has been shown that numerous substances introduced into the blood current, and so directed to all the organs of the body fail to reach the central nervous system, or, at any rate, are not recovered from the cerebro-spinal fluid. Such, perhaps, has been the fate of the anti-syphilitic remedies of tried value. If this dark chapter of human nature and of medical practice is to be illumined by the discoveries of the last few years, light will come from the discovery of a remedy to check the inflammatory action in the brain, and a method of application which will reach the affected tissues. Some very encouraging efforts in this direction have been made. In 1910 Professor Ehrlich introduced a specific remedy, "salvarsan," a salt of arsenic, which was later modified and produced under the name "neosalvarsan." When injected into the blood current, the arsenic set free was not recovered from the cerebro-spinal fluid and apparently produced no effect upon the central nervous system: when injected into the spinal canal, the action was so

violent as to damage the spinal cord. These difficulties have been met by a complicated procedure which gives promise of effectiveness. The remedy is introduced into the veins of the patient, and one hour later forty cubic centimetres of blood are withdrawn, and allowed to stand over night at a freezing temperature. The separated blood serum is then withdrawn, diluted with normal salt solution, and rendered harmless by heat. Thirty cubic centimetres of cerebro-spinal fluid are then withdrawn and replaced by the serum which contains a modified dose of the remedy, which has been found in test tube experiments to destroy the organism of syphilis. The results in the few cases in which it has been used have been encouraging. It is perhaps needless to direct attention to the extreme delicacy of the method and the need of strict technique. For this work and for the willingness and enthusiasm with which it was undertaken the Hospital is under obligation to Dr. Southwell. Dr. Southwell has familiarized himself with the method and brings to its support the knowledge gained from long laboratory training. He is thus enabled to verify the clinical observations by the laboratory findings. It is to be regretted that opportunity was not afforded for more prolonged study of individual cases, but hospital residence is usually of short duration. The chance of success rests largely upon the administration of treatment in the earliest stage of disease, and hope of cure of general paralysis can be extended to patients at home or in a general hospital before the disease has progressed to a condition of incurable insanity.

Four cases of general paralysis and one case of locomotor ataxia were treated by Dr. Southwell. Of the four cases of general paralysis, one was very much benefited, so that his mental symptoms disappeared, one was improved, and two left the Hospital during the treatment.

This modest beginning of what seems to promise an effective method of treatment is in line with attempts in the same direction in other institutions. Encouraging results have been obtained in the Boston City Hospital whose report for the last year has just been issued. This method received the indorsement of the Boston Hospital under the authority of the following definite statement:

A very important line of work in this department has been inaugurated, namely, the treatment of various nervous diseases of syphilitic origin by



intraspinal injections of salvarsanized serum. This is a method requiring especial skill and experience, as the technique is difficult and can be successfully carried out only by those who have especial training. In the last year fifty-two injections have been given to nineteen patients, with no untoward results. The treatment has been followed by marked benefit in cases formerly regarded as incurable, and the outlook for the future, if this work continues, is most hopeful. In addition, a special study has been undertaken of a considerable number of syphilitic patients to detect the earliest symptoms of involvement of the nervous system and to begin appropriate treatment early. In this way it is possible that some cases of tabes and general paresis may be cured.

#### DISCHARGES

Of the three hundred and fifty-two patients discharged, fifty-one recovered and one hundred and thirty-eight were improved. The percentage of cases distinctly benefited is forty-nine. Since the opening of the Pavilion the percentage of cases discharged as recovered and improved has been fifty-three. Of the thirty-one hundred and thirty-two patients admitted in the twelve years, sixteen hundred and seventy patients have returned to their homes with health restored. One hundred and twenty-four patients were discharged unimproved, and thirty-five died. The causes of death were: exhaustion of alcoholism, one; tuberculosis, thirteen; pneumonia, one; apoplexy, two; nephritis, two; meningitis, two; heart disease, three; old age, five; suicide, two; bronchitis, one; enteritis, one; erysipelas, one; gangrene, one.

#### ACKNOWLEDGMENT

The excellence of the institutions of Albany is evidence of the pride with which they are regarded, and the charities of the city leave little to be desired. With particular reference to this department of the Hospital, any statement of operations would be incomplete without acknowledgment of the uniform courtesy of the public officials with whom there are business relations. In the many complicated problems of legal or fiscal character the city authorities have acted with the Hospital for equitable adjustment. The burden of the daily operations falls necessarily upon the Department of Charities and Corrections, and to the head of that department, Commissioner William H. Storrs, the Hospital stands in a debt of gratitude which increases with each year. He has faithfully studied the purposes of the Pavilion and its relations with patients; on repeated occasions, at the sacrifice of time and personal comfort, he has investigated indi-

vidual cases, and has decided upon their disposition with impartial and painstaking care. His administration of his office has won for him universal respect.

The comfort of the patients has been enhanced by the kindness of our friends. Mrs. Martin H. Glynn has regularly donated additions to our library, her gift of the year having been thirty-two volumes of new books. Books and magazines have been received from Mrs. Louisa Kratz, and from Mrs. Frederick Tillinghast, Mrs. David A. Thompson and Mrs. Thomas C. Lawler. The subscription to *McClure's*, which has been enjoyed for several years, was renewed by a "friend." Two rocking chairs were given by Mrs. P. K. Dederick, Jr., flowers by Mrs. William B. Jones, a goldfish by Mrs. Knapp, and one room has been made much more attractive by the gift from Mrs. John Hoffman, of pictures, rug and curtains.

## Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, SEPTEMBER, 1914.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

### *Deaths.*

Consumption. . . . .	14
Typhoid fever . . . . .	1
Scarlet fever . . . . .	3
Measles. . . . .	0
Whooping cough . . . . .	0
Diphtheria and croup . . . . .	1
Grippe. . . . .	0
Diarrheal diseases . . . . .	15
Pneumonia. . . . .	3
Broncho pneumonia. . . . .	4
Bright's disease . . . . .	14
Apoplexy. . . . .	7
Cancer. . . . .	9
Accidents and violence. . . . .	6
Deaths under one year. . . . .	25
Death over 70 years. . . . .	28
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Total deaths . . . . .	152
Death rate . . . . .	16.81
Death rate less non-residents. . . . .	13.60

*Deaths in Institutions.*

Albany Hospital .....	14
Albany County Jail.....	1
County House .....	5
Homeopathic Hospital .....	9
Hospital for Incurables.....	2
Little Sisters of the Poor.....	2
Penitentiary.....	1
Public Places .....	5
St. Margaret's House.....	6
St. Peter's Hospital.....	10
Maternity Hospital .....	2
Albany Hospital Camp.....	1

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. ....	11
Negative. ....	27
Total.....	38

Living cases on record September 1, 1914..... 352

## Cases reported:

By card .....	26
Dead cases by certificate.....	6
	32

Total..... 384

Dead cases previously reported..... 10

Dead cases not previously reported..... 6

Removed..... 7

Recovered..... 2

Living cases on record October 1, 1914..... 359

Total tuberculosis death certificates filed during September..... 16

## Non-resident deaths:

City at large.....	1
County Hospital .....	1
Albany Hospital .....	1
Albany Hospital Camp.....	1
	4

Resident tuberculosis deaths..... 12

*Report of Visiting Tuberculosis Nurse.*

Old cases .....	7
New cases .....	25
Returned from hospitals.....	11
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Total.....	43
Disposition of old and new cases:	
Died. . . . .	1
Sent to hospitals.....	8
To general tuberculosis nurse.....	14
Left town .....	2
Lost track of.....	3
Remaining under treatment.....	15
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Total.....	43
Visits made .....	24
Visits made, old cases.....	160
Calls at Board of Health office.....	26
Calls at Commissioner of Charities office.....	26

## BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever .....	11		
Scarlet fever .....	38		
Diphtheria and croup.....	5		
Chickenpox. . . . .	5		
Smallpox. . . . .	0		
Measles. . . . .	0		
Whooping-cough. . . . .	5		
Consumption. . . . .	33		
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Total.....	97		
Number of days quarantine for diphtheria:			
Longest.....	7	Shortest.....	7
Average.....		7	
Number of days quarantine for scarlet fever:			
Longest.....	46	Shortest.....	30
Average.....		36 1/56	
Fumigations:			
Houses.....	79	Rooms.....	492
Cases of diphtheria reported.....	5		
Cases of diphtheria, antitoxin used.....	4		
Cases of diphtheria, antitoxin not used.....	1		
Deaths after use of antitoxin.....	0		



## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive .....	16
Initial negative .....	241
Release positive .....	0
Release negative .....	16
Failed. . . . .	15
Total.....	288

*Test of Sputum for Tuberculosis.*

Initial positive .....	13
Initial negative .....	29
Total.....	42

## BUREAU OF MARKETS AND MILK.

Public market inspections.....	12
Rendering house inspections.....	3
Milk depots inspected.....	9
Milk houses inspected.....	48
Milk depots deficient.....	2
Milk houses deficient.....	30
Milk wagons inspected.....	11
Milk cans inspected.....	89
Milk cans condemned.....	4
Milk cans disinfected.....	11
Cows examined .....	593
Cows quarantined .....	7
Cows removed .....	2
Lactometer readings .....	12
Temperature tests .....	12
Fat tests .....	7
Sediment tests .....	28

## MISCELLANEOUS.

Work certificates issued to children.....	16
Number of complaints of nuisances.....	56
Privy vaults .....	2
Closets. . . . .	6
Plumbing. . . . .	3
Other miscellaneous complaints.....	45
Number of dead animals removed.....	585
Cases assigned to health physicians.....	64
Calls made .....	121

## Medical News

Edited by Arthur J. Bedell, M. D.

**ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR SEPTEMBER, 1914.**—Number of new cases, 182; classified as follows: Dispensary patients receiving home care, 14; district cases reported by health physicians, 12; charity cases reported by other physicians, 58; moderate income patients, 73; metropolitan patients, 25; old cases still under treatment, 187; total number of cases under nursing care during month, 369. Classification of diseases for the new cases: Medical, 18; surgical, 12; gynecological, 8; obstetrical under professional care, mothers 50, infants 49; eye and ear, 1; throat and nose, 2; infectious diseases in the medical list, 42. Disposition: Removed to hospitals, 19; deaths, 14; discharged cured, 108; improved, 30; unimproved, 5; number of patients still remaining under care, 193.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 2; students in attendance, 2; nurses in attendance, 3; patients carried over from last month, 1; new patients during month, 6; patients discharged, 5; visits by head obstetrician, 1; by attending obstetrician, 1; by students, 46; by nurses, 55; total number of visits for this department, 103.

*Visits of Guild Nurses* (all departments).—Number of visits with nursing treatment, 1,413; for professional supervision of convalescents, 614; total number of visits, 2,027; visits to pay cases, 600; to charity cases, 813; unrecorded visits, 614; cases reported to the Guild by 4 health physicians, and 39 other physicians; graduate nurses 7, certified nurses 2, and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 81; new patients, 212; old patients, 494; total number of patients treated during month, 706. Classification of clinics held: Surgical, 13; nose and throat, 5; eye and ear, 17; skin and genito-urinary, 2; medical, 13; lung, 8; dental, 0; nervous, 3; stomach, 2; children, 11; gynecological, 7.

**MEDICAL SOCIETY OF THE COUNTY OF ALBANY.**—The semi-annual meeting of the Medical Society of the County of Albany was held at the Elks Club, 138 State Street, Thursday, October 15, 1914, at 8.45 P. M.

Vice-president Dr. W. T. Jenkins read his address on "The Synthesis and Metabolism of Proteins, Fats and Carbohydrates."

**MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.**—At a regular meeting of the Medical Society of the County of Schenectady, held September 8, 1914, the following resolution was unanimously adopted:

"The members of this Society shall not accept any fees for work done under the Workmen's Compensation Act less than those regularly prescribed by the fee bill of this Society."

The regular meeting of the Medical Society of the County of Schenectady was held in the County Court House on Tuesday, October 20, 1914, at 8.30 P. M.

The following papers were read: "Why Examine School Children," Dr. John L. Schoolcraft; "School Inspection," Dr. C. B. Witter.

MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.—The regular meeting and election of officers of the Medical Society of the County of Dutchess was held at the DeLaval Separator Company, Poughkeepsie, Wednesday, October 14, 1914, at 3 P. M.

Dr. North of New York City read a paper on "Septic Sore Throat."

BRACKETT GATEWAY, SARATOGA SPRINGS, N. Y.—The dedication of the Brackett Gateway, erected by the citizens of Saratoga Springs as a token of appreciation of the work of Edgar T. Brackett in conceiving the plan and accomplishing the legislation creating the Saratoga Springs Reservation, Saratoga Springs, N. Y., took place on Saturday, October 10, 1914, at 2.30 P. M.

CONFERENCE OF SANITARY OFFICERS.—The fourteenth annual conference of sanitary officers of the State of New York was held at Saratoga Springs, October 15, 16 and 17, 1914, under the presidency of Dr. Hermann M. Biggs, Health Commissioner of the State.

FOURTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The eighth annual meeting of the Fourth District Branch of the Medical Society of the State of New York was held at the Eccentric Club, Gloversville. Dr. Linsley R. Williams of Albany, Deputy Commissioner of Health, read a paper on "The Sanitary Code and Its Relations to Physicians." Among the thirteen other papers presented at the meeting was one by Dr. Andrew MacFarlane, Albany, on "The Reduction of Blood Pressure by the Removal of the Adrenal."

APPOINTMENT OF A STATE MEDICAL INSPECTOR OF SCHOOLS.—The New York State Civil Service Commission invites applications for appointment as State Medical Inspector of Schools, Education Department. Salary, \$5,000 per year. Open to men only. Applicants for this position must be graduates of a college approved by the University of the State of New York. Applicants must also have had at least five years' experience in the practice of medicine in this State and must also show at least three years' experience in public health inspection. Applicants must also show a reasonable familiarity with the general organization and administration of the public school system. Preference will be given those who show important experiences in public health and sanitation work and who have had experience in public speaking upon health propositions. Candidates will not be required to appear at any place for written examination. They should be careful to set forth their training and experience in full in their applications. They may be summoned for a personal interview with the examiners.

CONVOCATION OF THE UNIVERSITY OF THE STATE OF NEW YORK.—The fiftieth convocation of the University of the State of New York was

held at the Education Building, Albany, on October 22d and 23d. George H. Palmer, L. H. D., LL.D., Alford Professor of Natural Religion, Moral Philosophy and Civil Polity, Harvard University, gave an address on "What is a Profession."

**NEW YORK AND NEW ENGLAND ASSOCIATION OF RAILWAY SURGEONS.**—The twenty-fourth annual meeting of the New York and New England Association of Railway Surgeons was held at the Hotel Astor, New York City, Wednesday, October 21, 1914.

**STATE BOARD EXAMINATIONS.**—Hereafter the New York State Board of Medical Examiners may ask candidates questions on the duties of practitioners under the Sanitary Code established by the State Public Health Council and also on the duty of reporting industrial diseases under the Labor Law.

**AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.**—The nineteenth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology was held at the Copley-Plaza Hotel, Boston, Mass., October 19th, 20th and 21st.

The following papers were read: "How shall we talk on Conservation of Vision?" Dr. James A. Spalding, Portland, Me.; "The Ocular Symptoms of Brain Abscess and Sinus Thrombosis of Otitic Origin with Report of a Case," Dr. G. B. Jobson, Franklin, Pa.; "Hyoscine and Morphine as a Preliminary to Local Anaesthetics," Dr. Lee M. Hurd, New York City; "Further Observations on the Physiology of Concentrated Cocain-Adrenalin Solutions for Inducing Local Anaesthesia and Technique of Application in Eye, Ear, Nose and Throat Surgery," Dr. George E. Davis, New York City; "Observations on the Topical Diagnostic and Psychiatric Value of the Wilbrand Test with a New Clinical Instrument," Dr. Clifford B. Walker, Boston, Mass.; Vice-President's Address, Dr. J. M. Ingersoll, Cleveland, O.; Oration, "Perimetric Deviations Associated with Pituitary Lesions," Prof. Harvey Cushing, Harvard; "The Intranasal Partial Resection of the Tear Sac," Dr. J. Sheldon Clark, Freeport, Ill.; "Acquired Non-Traumatic Cataract of the Young," Dr. C. B. Wylie, Morgantown, W. Va.; "Traumatic Pulsating Exopthalmos," Dr. Arthur J. Bedell, Albany, N. Y.; "Subperiosteal Blood Cyst(?) of the Orbit Simulating Osteosarcoma," Dr. Robert Lamb, Washington, D. C.; "An Abscess of the Optic Nerve," Dr. Harry S. Gradle, Chicago, Ill.; "Economics of the Eye, Ear, Nose and Throat together with the Economics of the Entire Body," Dr. Erastus E. Holt, Portland, Me.; "Lantern Demonstration of Various Pathological Conditions of the Eye," Dr. F. H. Verhoeff, Boston, Mass.; "Report on a Series of Fifteen Hundred Cases of Error of Refraction and a Brief Analytical Consideration of the Symptoms Presented," Dr. John R. Newcomb, Indianapolis, Ind.; "Routine Refraction Problems," Dr. Hiram Woods, Baltimore, Md.; "Strabismus," Dr. Francis Valk, New York City; "Concerning the Use



of Invisible Bifocals in the Treatment of Convergent Strabismus (Esotropia) in Little Children," Dr. Wendell Reber, Philadelphia, Pa.; "New Light on the Theory of Accommodation with Practical Applications," Dr. Walter B. Lancaster and Dr. Edward R. Williams, Boston, Mass.; "Partial Tenotomies by Harmon's Method," Dr. Holbrook Lowell, Boston, Mass.; "A Résumé of the Trachoma Bodies as the Aetiological Factor in Trachoma and in the So-Called 'Inclusion Blepharitis,'" Dr. Francis W. Alter and Dr. William O. Bonser, Toledo, O.; "Unusual Cases of Toxic-Amblyopia," Dr. E. C. Ellett, Memphis, Tenn.; "Should the Intra-Capsular Method of Cataract Extraction be Adopted by the Oculist of America," Dr. Oliver Tydings, Chicago, Ill.; "A Cataract Incision Leaving Undetached Conjunctival Flap with Bridge of Conjunctival on Temporal Side," Dr. Frank C. Todd, Minneapolis, Minn.; "Loss of Vitreous in the Intra-Capsular Operation and its Prevention," Dr. William L. Fisher, Chicago, Ill.; "An Operation for the Prevention of Symblepharon," Dr. Elmer G. Starr, Buffalo, N. Y.; "Some Observations of Eye Clinics in Paris," Dr. T. W. Moore, Huntington, W. Va.; "Sclerocorneal Trephining," Dr. Erastus E. Holt, Jr., Portland, Me.; "The Sociologic Aspect of Deafness, Congenital or Acquired in Early Life; with a Suggestion for Betterment through Indirect Effort," Dr. H. B. Young, Burlington, Ia.; "The Preturbinal Operation on the Maxillary Sinus," Dr. Ross H. Skillern, Philadelphia, Pa.; "A New Submucous Septal Operation," Dr. Oliver Tydings, Chicago, Ill.; "The Dynamics of Nasal Development; Its Bearing on Resection of the Septum," Dr. William W. Carter, New York City; "A Plea for the Electrically-driven Burr in Bone Surgery of the Head," Dr. Joseph C. Beck, Chicago, Ill.; "Vaccine Therapy in Ear Disease," Dr. Virginius Dabney, Washington, D. C.; "Exhibition of Radiographs of Mastoid Process," Dr. Wendell C. Phillips, New York City; "The Nose and Character," Dr. Percy Fridenberg, New York City; "Voice Fatigue in Singers and Speakers," Dr. Irving W. Voorhees, New York City; "Histopathology of the Tonsil," Dr. T. E. Carmody, Denver, Colo.; "An Infrequent but Serious Complication of Tonsillectomy," Dr. Charles W. Richardson, Washington, D. C.; "The Control of Hemorrhage in Tonsillectomy," Dr. Austin A. Hayden, Chicago, Ill.; "Some Observations upon the Modern Mastoid Operation," Dr. J. J. Kyle, Los Angeles, Cal.; "Harmless Post Operative Temperature," Dr. George F. Cott, Buffalo, N. Y.

**TUBERCULOSIS DAY.**—The National Association for the Study and Prevention of Tuberculosis has set apart November 29th as "Tuberculosis Day" to be observed by sermons, lectures, motion pictures, exhibits and many other methods. A special circular, "What is Tuberculosis Day," has been prepared and is being widely distributed. If a church, school or lodge gives the subject attention in any way during that week, it will help in the national educational movement.

**ARMY MEDICAL CORPS EXAMINATIONS.**—The Surgeon-General of the Army announces that preliminary examinations for appointment of First

Lieutenants in the Army Medical Corps will be held on January 11, 1915, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations, applications must be completed and in possession of the Adjutant General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present twenty vacancies in the Medical Corps of the Army.

PERSONALS.—Dr. MARCUS A. CURRY (A. M. C. '04), has been appointed a member of the Staff of the State Hospital at Morris Plains, N. J.

—Dr. WALLACE J. AUBREY (A. M. C. '10), has opened an office at Plattsburg, N. Y.

—Dr. FREDERICK J. GARLICK (A. M. C. '11), is engaged in active practice at Rochester, N. Y.

MARRIED.—Dr. HARRY J. LOOP (A. M. C. '04), Saratoga, and Miss Emily Myers, also of Saratoga, October 15, 1914.

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DIED.—Dr. CHARLES H. SMITH (A. M. C. '54), Albany, the oldest surviving member of that class, died at his home in that city, September 27, 1914.

—Dr. MATTHEW R. CARSON (A. M. C. '57), director of the Canandaigua, New York, Hospital of Physicians and Surgeons and a member of the Staff of the Thompson Memorial Hospital, Canandaigua, whose fiftieth anniversary as a member of the Ontario County Medical Society was celebrated in October, 1909, a charter member of the Canandaigua Society of Physicians and Surgeons, died at his home in that city, October 6, 1914, aged 78.

—Dr. CHARLES J. BACON (A. M. C. '65), founder and formerly president of the Lee Memorial Hospital, Fulton, N. Y., and consulting physician to the Oswego New York Hospital, for many years a practitioner of Fulton but since 1910 a resident of Syracuse, died at his home, September 3, 1914, aged 70.

—Dr. JOHN W. MORRIS (A. M. C. '81), Troy, N. Y., died at his home in that city, October 5, 1914.

## In Memoriam

MATTHEW RIPLEY CARSON, M. D.

DR. MATTHEW RIPLEY CARSON, an alumnus of the Albany Medical College, of the class of 1857, died at his home in Canandaigua, N. Y., October 6th, 1914, aged 79.

Dr. Carson was born in Seneca town on May 25, 1836, the son of Robert Carson, Jr. His grandfather, Robert Carson, came to this country from Ireland in 1791, settling in Ontario County. After his common school education Matthew R. Carson passed two years at Canandaigua Academy, finishing his academic course at Geneva. He was graduated from the Albany Medical College and spent the succeeding year in hospital work in that city. Returning to Canandaigua he formed a partnership with Dr. Cheney.

Dr. Carson was a charter member of the Canandaigua Society of Physicians and Surgeons. He was also a member of the Ontario County Medical Society. In 1860 Dr. Carson married Elizabeth J. Ostrom of West Charlton, N. Y., who survives him. He also leaves two daughters, Miss Grace E. Carson of Canandaigua and Mrs. J. L. Barnett of Constantia, and a son, Dr. Robert L. Carson of Rochester; also one brother, Dr. James C. Carson of Syracuse.

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## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*History of Medicine, with Medical Chronology, Bibliographic Data, and Test Questions.* By FIELDING H. GARRISON, A. B., M. D., Principal Assistant Librarian, Surgeon General's Office, Washington, D. C., Editor of the "Index Medicus." Octavo of 763 pages, many portraits. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$6.00, net; half morocco, \$7.50, net.

There are many ways of approaching this task of compiling the history of medicine, and the right one is usually neglected. The allurements of the romantic and picturesque prove too strong and draw the historian away from an orderly presentation of the essential facts. The reader has grown accustomed to the superstition and vagaries of ancient and mediaeval practice, which are not to be escaped in any retrospect of the healing art, but may well be subordinated to the tangible facts which make up the record of development of modern scientific practice. Primitive people, and even the lower animals, have had some simple methods of relieving distress, but without conception of curative art, and far removed from any idea of the natural course of disease. Medicine itself

is only to be dignified as an art or a science when it is based upon some knowledge of the structures and function of the organism. So Alexandrian culture recognized and encouraged the anatomical studies of Herophilus and the botanical and therapeutic researches of Evasistratus, though these were lost from sight in the dark ages which followed. Afterward came the Arabic chemistry, with its confusion of exactness with mysticism, on the threshold of the revival of accurate anatomical and clinical observation. The modern science dates from Vesalius, Scarpa and contemporary anatomists, from the surgery of Paré and from the medical observations of Sydenham. These pioneers dealt with facts as they saw them, and under the sway of facts empiricism is slowly yielding.

Dr. Garrison's book is an innovation in the collation and arrangement of the facts of medical history for proper reference and utility. That some general idea of the history of medicine is necessary to the culture of the physician is generally recognized: but information upon the origin or discovery or elaboration of disease entities is not usually regarded as essential. And yet there can be no real apprehension of clinical manifestations without this. The practitioner may recognize Addison's or Parry's or Bright's disease, and, in intricate cases, stand puzzled in the presence of a differential diagnosis which may be cleared by reference to the circumstances under which the discovery was originally made. From this standpoint Dr. Garrison's book is invaluable. It is the first and only "History of Medicine" which asserts a right to a place in the medical library, not as an appeal to general culture, but as a necessary volume of reference for elucidation of the problems of daily practice and study. The systematic and orderly arrangement of diseases in their historical associations leaves little to be desired, and highest praise is to be accorded a work of such magnitude and accuracy.

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*Recreations of a Physician.* By A. STUART M. CHISHOLM, M. D., Author of "The Independence of Chile." G. P. Putnam's Sons, New York and London, The Knickerbocker Press, 1914.

Dr. Chisholm believes that the demands of medicine reach out into every department of knowledge, and that all of the acquisitions of an active life may be brought into the service of the physician. "If a man knows nothing but his specialty he cannot even know that." Even the diversions of an intellectual mind may avail not only in general culture, but in the finished conception and decision upon vital, practical problems. For himself, he has evidently chosen to give his leisure to wide reading, and to contemplate the revelations in literature of human character, upon which so many manifestations of disease depend.

The series of essays, reprinted from the *Journal of the American Medical Association* and the *ALBANY MEDICAL ANNALS* is a distinct literary achievement, and enrolls its author among the honored list of "Physicians as Men of Letters," to whom he pays so high tribute.



There is much of medical history, and particularly instructive is his characterization of Sydenham in his paper on "Some Features of the Science of Medicine in the Seventeenth Century." Indeed, a clear-cut essay of this kind is needed to emphasize the fact that medicine really became a science at this time, at least modern medicine, for here the anatomists, as Vesalius and Sarpo, began their practical work and demolished the theoretical hypotheses prevailing in the middle ages. Harvey demonstrated the circulation of the blood, Paré practiced rational surgery and Sydenham, without comprehension of Harvey's discovery, unconsciously imitated his illustrious contemporary in applying the art of accurate observation to the advance of clinical medicine. At the present day, we may pause and consider whether his precept is fully understood, as he writes: "The disease must be attacked easily and, as far as its nature will allow, must go off of its own accord. I often think that we move more hastily than we ought to do, and that more could be left to nature than we are at present in the habit of leaving her. To imagine that she always wants the aid of art is an error."

In his essay on the rogue, "The Picaro in Fiction," Dr. Chisholm, culls from an extraordinary wide reading, in which Gil Blas and San-grado, with others of their ilk, take no inconsiderable part. Other excursions into purely literary fields, as in the essays on "Banquo," "Royal Authors," "On Some Translations of Horace," reveal the contemplative and analytical faculties of the author at his best. The volume is a decided acquisition, and adds another to the slowly growing shelf of classics by literary physicians, already graced by the works of Holmes, Weir Mitchell, Mumford, Osler and others.

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*The Modern Hospital; Its Inspirations; Its Architecture; Its Equipment; Its Operation.* By JOHN A. HORNSBY, M. D., Secretary Hospital Section, American Medical Association; Member American Hospital Association, etc., and RICHARD E. SCHMIDT, Architect, Fellow American Institute of Architects. Octavo volume of 644 pages with 207 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$7 net; half morocco \$8.50 net.

The scarcity of the literature upon the subject of hospital management and the proportions the question of institutional care of the sick has assumed warrant the appearance of an authoritative "hospital" work. The authors are especially suited to such a task; the prominence of each in his respective field at once attracts attention to the work, the value of which is best appreciated by reference to the table of contents.

Nearly one quarter of the 600 pages is devoted to hospital architecture; here are considered the site, details of structure, permanent installation and divisions. A trifle less space is devoted to equipment, such as furnishings, the operating room, the kitchen and the sewing room. Nearly one-half of the work is devoted to operation, where, among the

subjects discussed, are executive officers, medical staff, the modern trained nurse, rules for technical department, surgical operating rooms, departments of pathology, hydrotherapy and X-ray, the pharmacy, hospital dietetics, milk, and isolation and disinfection. The remaining pages are devoted to business management: the office, accounting, supplies, housekeeping, laundry, and waste.

The work is more than an exposition of the business of hospital management; essentially it tells how the institution, through its material equipment and its executive and professional representatives, cares for the sick. To those bearing either of these relationships to the hospital, the work is commended.

It is well written and printed, abundantly illustrated and attractively and substantially bound.

P. T. H.

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*Private Duty Nursing.* By KATHARINE DEWITT, R. N. J. B. Lippincott Co., Philadelphia and London, 1913.

The purpose of this work is to help the nurse to apply in the home the principles the hospital has taught her. Further, it emphasizes points that make for efficiency in her work but, because of the routine of hospital duties, too often are little urged or never grasped.

Though abounding in practical suggestions (and worthy of special mention are those contained in the chapters devoted to surgery, obstetrics and contagion in the home), the work is in no sense a hand-book of nursing. It is essentially a guide to success in the care of patients rather than "cases" and could be read and re-read with advantage by every pupil and graduate nurse.

P. T. H.

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*Massage—Its Principles and Technic.* By MAX BOHM, M. D., of Berlin, Germany. Edited, with an introduction, by Charles F. Painter, M. D., Professor of Orthopedic Surgery at Tufts Medical School, Boston. Octavo of 91 pages, with 97 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$1.75 net.

The purpose of the author is to present the general subject of massage in such a manner that its benefits may be attained both by the profession and by the laity. The subject is treated from the points of technic and massage of joints, muscles, nerves and skin, and of the abdomen.

The procedure as applied to pathological changes in the structures and region mentioned and to such special fields as the female generative organs, the throat and the eye is not considered. Such therapeutic measures should be employed only by the physician.

The work is profusely illustrated. Free use has been made of the anatomical diagram; and a well-executed half-tone accompanies the description of practically every procedure employed. The work is of definite value to the physician who may choose to apply its principles directly and of especial value to the nurse or masseur to whom the work may come or be assigned.

P. T. H.

*Laboratory Methods.* With Special Reference to the Needs of the General Practitioner. By B. G. R. WILLIAMS, M. D., and E. G. C. WILLIAMS, M. D. C. V. Mosby Co., St. Louis, 1913.

In this work there are presented all the essential and not a few of specialized laboratory tests. Concise statement of procedure and of materials needed (and an attempt has been made to simplify technique and apparatus required) make the work for the general practitioner superior to the larger and more extensive laboratory guides. In amount of material contained and in liberal use of illustration, it is more complete than the compend.

*Laboratory Methods* should appeal to the practitioner, removed from laboratory centers, "who desires to make, easily and inexpensively, examinations on which he may depend."

P. T. H.

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*Psychoanalysis: Its Theories and Practical Application.* By A. A. BRILL, Ph. B., M. D., Chief of Clinic of Psychiatry and Clinical Assistant in Neurology, Columbia University Medical School; Chief of the Neurological Department of the Bronx Hospital and Dispensary. Second edition, thoroughly revised. Octavo of 393 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3 net.

The appearance of a second edition of this work within a short time indicates the general interest of the profession in psychoanalysis. The present volume maintains its original views and dissertations amplified by additional illustrative cases from the author's practice. There are also included some cognate articles published elsewhere.

No fair minded person can deny that the studies of Freud have opened up a new avenue of research and have shed considerable light upon a many heretofore obscure psychic phenomena. His contributions to the psychopathology of every day life, to interpretation of dreams, coupled with the associative experiments of the Zurich School, have given a new life to morbid psychology and have the promise of elucidating the mental mechanism of some of the psychoses.

Invaluable as Freud's methods of psychoanalysis have been there is a grave danger lurking in the over-enthusiasm of his pupils, among them we have to count Brill, who with a sweeping movement has extended its applicability into all directions and has assumed an arrogant and contemptuous attitude towards those differing with them. It must be admitted that the grain has still to be separated from the chaff and libidino is not the sole detriment to all psycho neurotic states. We all cannot subscribe to his Oedipus complex, nor the few cases adduced cover the entire field.

Dr. Brill has produced an intelligible work, he has well digested the subject matter and writes in a clear and entertaining style. For those who want a reliable and authentic account of Freud's teachings, the present volume will serve a good guide.

N. A. P.

*Gonorrhea in Women.* Its Pathology, Symptomatology, Diagnosis, and Treatment: Together with a review, of the rare varieties of the disease which occur in men, women and children. By CHARLES C. NORRIS, M. D., Instructor in Gynecology, at the University of Pennsylvania. Octavo of 521 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth \$6; half morocco \$7.50 net.

The size of this volume of 521 pages, devoted essentially to exposition of the purely scientific aspects of gonorrheal infection, the extensive clinical experience and facilities at the disposal of the author, the systematic arrangement of subject matter, an abundance of important statistical material and an extensive bibliography combine to make the work elaborate and comprehensive. There are no details of the bacteriology and pathology, of the symptoms and diagnosis, and of the treatment of both the acute and chronic conditions lacking.

The discussion of such questions as the meaning of gonorrheal infection in terms of life and health, prostitution and the present status of its control, venereal prophylaxis and the attitude of the state, the physician and the individual toward it shows the work to be an exposition not alone of the purely clinical but as well of the sociological aspects of the problem of gonorrheal infection.

The work is a treatise in which various aspects of a large question are considered. It is as worthy a contribution to preventive as to curative medicine and so of value equally to general practitioner and specialist. The work is excellently though not profusely illustrated. In its production, the usual high standard of the publishers has been maintained.

P. T. H.

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*False Modesty.* By E. B. LOWRY, M. D. Forbes and Co., Chicago, 1912.

This small volume, by a recognized leader in the movement, is an appeal to parents for early and proper training of children in matters pertaining to sex. It is an attempt to show the extent to which the particular vice of the white-slave traffic is protected by ignorance of its evils and of the practical methods of control.

The presentation of the subject is dignified and the work, though small, a worthy contribution to the rapidly growing though generally mediocre literature on "sex."

P. T. H.

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*Treatment of Chronic Leg Ulcers, a Practical Guide to its Symptomatology, Diagnosis and Treatment.* By EDWARD ADAMS, M. D. 122 pages. Cloth \$1. Published by The International Journal of Surgery Company, 100 William Street, New York City.

This small book is entirely devoted to a complete review of the treatment of chronic ulcers of the leg. The author states in his preface that the work to a large extent reflects his views and personal observations in hospital and private practice. We are given no entirely new nor original suggestions for treatment, but all the well known or standard methods are described in detail.

T. L.



# ALBANY MEDICAL ANNALS

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## Original Communications

### HOSPITAL TREATMENT OF INEBRIATES,

By T. D. CROTHERS, M. D.,

*Superintendent, Walnut Lodge Hospital, Hartford, Conn.*

My opinion is very often called for, concerning the advisability of hospital treatment for moderate or excessive users of spirits. These questions are becoming more and more intense every year, for the reason that the disability of such persons is recognized more clearly than ever. Can they be helped by medical treatment, is a very common inquiry.

The average physician will agree that active remedies during the drink paroxysm may be very helpful, but when the paroxysm is over, he will express much doubt as to the value of farther treatment.

The quacks with their assumed specifics have brought the medical care of inebriates into great prominence for the last twenty years. They started out with the assumption that a certain combination of drugs would restore to sobriety and practically cure a large percentage of these persons.

The secrecy and pretensions concealed the drugs for a long time, but they were found to be well-known remedies, the virtues of which had been tried for a long time, and were well known. A great number of empirics offered a large number of drug combinations, claiming that they were specifics. Careful observation and experience failed to confirm these claims. Notwithstanding this, this quack stage with its pretenders have done much to educate the public to look for relief from medical means and measures, and while many persons have been permanently restored, it is doubtful if a very much larger number have not been made incurable, and hurried on to an early death by their methods.

This illustrates the history of every great advance in medicine, which is marked by a quack stage, in which certain facts are exaggerated and materialized in extravagant ways, and are found to be untrue from farther study and experience.

Whatever theories we may entertain for ourselves, there are certain facts which have been attested by laboratory and clinical experience that are beyond all question. Thus, alcohol is an anaesthetic and not a tonic or stimulant. Its so-called pleasant effects are simply narcotic, covering up the pains and fatigue and the feeling of exhaustion. Its continued use is erosive and corrosive to cell and tissue. To what extent, and in what way, are not yet clearly known. Clinically, diseases and degenerations are most often traced to the use of alcohol and a large number of authorities assert most positively that next to syphilis, alcohol is the most active and predisposing cause of disease and degeneration.

Studies into the causation of diseases bring very striking confirmation to this fact, and indicate farther that a great many of the organic and nervous degenerations are due to this one cause.

When the patient is demented, or has reached stages in which alcohol is called for, without power of restraint, there can be no question of the need of active treatment, whether this treatment shall be in the form of a prescription and frequent visits at home under the advice of his family physician, or whether he shall be taken out of his surroundings and placed in an institution, where specific care of this kind is given, are questions which must be decided in each individual case.

There are practically two classes of drinking men in this country—the so-called moderate drinker, who is seldom or never seen intoxicated, but who after a few years suffers from so-called rheumatism, nervous exhaustion, nutrient disturbances and a great variety of local troubles, which do not yield to the ordinary remedies; there is profound neurasthenia, anemia, and toxemias, which are more or less present in every case. The patient very rarely acknowledges the presence of alcohol as an exciting cause, or even as a contributing cause, and in many cases he uses alcohol as a remedy, and as a result becomes more and more debilitated. These are the persons who go off

in search of health, principally to watering places, to springs, in the mountains, to Europe, and elsewhere.

After a time they return very little benefited. By and by acute alcoholic symptoms develop, and then attention is turned to this symptom and some special treatment is given.

The family physician is somewhat baffled, because he has no literature to direct him and perhaps he is constitutionally averse to the thought that spirits are directly responsible for the trouble, hence he seeks other causes.

Finally the patient is persuaded to go into some special sanatorium for treatment of some conditions that seem to be prominent. Here the more experienced physician finds that alcohol is the active cause and directs all his attention to removing this. The patient recovers in some measure. If the physician impresses upon him the real danger, and he realizes it, the most satisfactory results follow.

It is a fact not well known that the moderate or steady user of spirits is far more chronic and intractable in the degenerations from which he suffers than one who has never used spirits. Such persons should go under hospital treatment, if only for a short time, so as to break up the conditions into which they are certainly passing. If the patient is not convinced that alcohol is an exciting cause, he certainly can be impressed by hospital treatment of the need of better living, and greater care of his body and correct the defects of many conditions that exist. He can, in a hospital, have the advantage of a practical demonstration of the marked improvement which follows from the withdrawal of spirits and will certainly have an opportunity to reason for himself, and follow the direction of others.

The thought can be impressed on his mind that the search for health must begin with a total change in his present habits and methods of living. The family physician should urge all such persons to take a sanatorium or hospital treatment, then return and be under the care of the physician who will add most valuable after-care and treatment by advice and therapeutic measures according to the conditions present.

The second class of users of alcohol are the periodics, or the spasmodic drinkers, who drink to excess at times, then become total abstainers. The abstinent period varies and the term of the drink paroxysm also varies and is subject to great irregu-

larities. During the paroxysm the family physician can render most efficient aid, and then when the paroxysm is over he frequently lapses into a moral teacher and ends in advice, threats and counsel.

This is practically useless, although occasionally it may help to lengthen the period. These drink attacks resemble epilepsy, or other convulsive neuroses, and gather and break with a uniform intensity and duration. The patient very often is emphatic in his own condemnation and determined that it will never happen again, but this does not avail. Persons of this character sometimes occupy the very highest walks of society, and are concerned with very large interests in both professional and commercial circles. The question what can be done with them is an ever absorbing one, and most intensely vital in a great many ways. In the remorseful stage or at the termination of the drink attack these patients go to a sanatorium. Their recovery is assured, no matter what the treatment may be. If they fall into the hands of the quack, they become his promoters and advocates, but sooner or later the same storm breaks again, and when it is partially over they go under the care of a stranger to recover, and go out as before.

Some of these patients go the rounds and visit nearly all the well-known institutions of the country, recover at each one, then finally die of some intercurrent disease. At no place have they been treated properly, or impressed with the gravity of their condition or the need of institutional treatment. They have gone away from each place under the delusion that they are cured, only to find it a fallacy.

The periodic inebriate ought to have institutional treatment before the paroxysm. His family physician and friends should arrest and place him in an institution at the very beginning of the paroxysm, or if he is a close observer, and feels the attack coming on, he should go at once to some place of refuge where he can be controlled and given appropriate treatment. The paroxysm is cut short and the patient is re-educated and restored and sent out better prepared to meet another storm, that in the course of events is sure to follow.

There is in the eastern cities an increasing number of persons occupying the highest positions, suffering from these neuroses, who go at once on the first intimation, or who submit to be



taken by their friends the moment they begin to drink, to a proper hospital and treated by baths, electricity and other measures, which control and limit the attack.

Without such care these persons would be practically incurable in a very short time and carry down their families and business and reputation, and bring great suffering to their associates. In my experience of over forty years, in the care and treatment of the alcoholics and drug takers, I have urged the hospital treatment of all such cases at the earliest possible moment. A few weeks then, is worth months afterwards, and is far more effectual in bringing about permanent results. There is an increasing number of persons who come to institutions for a few days' or weeks' treatment, with the single purpose of averting a drink storm, which they know is before them. The ability to correct the paroxysm, or limit it, increases with the years. Some patients of mine have come three or four times a year, then less and less, and now are permanently restored. The appearance of the drink storm can be controlled by home measures and by visits of the family physician. A larger number of persons with this experience are treated by the family physician at home, who by a simple cathartic, a bath, or some mild hypnotic, is able to break up the nerve storm and save them the narcotism of drink.

Hospital treatment for inebriates is a good deal more than administering certain drugs, or confining the patient for a brief time. It is surroundings and conditions for re-education for the discovery of the actual causes, and the application of means and measures for restoration and cure.

It is the experience of all persons who are treating these cases along scientific lines that a residence in a hospital affords an opportunity to discover the real causes of the drink craze, and to teach the patient how to avoid them in the future. The surroundings of the hospital and the scrutiny by exact students who have only one purpose, to discover why he should suffer in this way is a revelation, both to the patient and his friends; and the instruction that they are able to give both to the friends and family physician, enables them to save the lives of many persons who would otherwise be lost. It is not the drugs, or the beautiful surroundings, but it is the man and the scientific work and study of his case, which is called for, and then the

application of correct, common-sense means and measures that will produce restoration.

There is no fiction in the treatment of drinking people, or sentiment, nor appeals to the patient's judgment of himself, or opinions of what he needs. It is the application of exact scientific and hygienic teachings that is called for.

There are some institutions in this country that are doing grand work in this direction. There are many family physicians with advanced knowledge on these topics, who urge most emphatically that all their patients who suffer from drink and drug neuroses take hospital treatment and avail themselves of the very best knowledge that it is possible to attain in these scientific times.

Hospital treatment can only do so much, but it can make it possible for the family physician to complete with success measures of treatment that are very satisfactory.

All authorities agree that the number of drink and drug narcotics (if not increasing) is very large, and their presence is a very serious menace to business and home interests. They agree in the possibility of successful treatment, and such views are becoming prominent in all medical circles.

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## THE IMPORTANCE OF PURE MILK FOR INFANTS AND INFANT FEEDING,

*Read before the Fourteenth Annual Conference of Sanitary Officers,  
September 15th-17th, 1914, Saratoga Springs, N. Y.*

By HENRY L. K. SHAW, M. D.,

*Director, Division of Child Hygiene, New York State Department of Health.*

Nature in her plan for the nurture and nourishment of the genus mammalia provided the mother with a food adapted to the peculiar and particular requirements of such species. This food, known as milk, contains the same food elements in each species, but differs in chemical and percentage composition and biologic properties. Mankind from time immemorial has utilized the milk of the cow for food purposes and the Bible refers to the Land of Canaan as one "flowing with milk and honey." To-day the average per capita of milk consumed in the United States is estimated at 6-10 of a pint per day and the total annual production in the United States is over ten billion gallons with a valuation of over \$850,000,000.

The dairy business is one of our most important industries. We cannot get along without milk, as it is a necessary article of diet. It is the most difficult of all our standard articles of diet to obtain and handle in a satisfactory manner. Rosenau has well said that it requires scrupulous care "from pasture to pail and from pail to palate." Milk is our most perishable food, and unless properly taken care of spoils more quickly than any of the fresh articles of food, such as fruit, vegetables, meat, etc.

Pure milk is both a safe and a clean milk. Milk may be safe as far as the danger of communicating and producing disease is concerned, but still it may not be clean. Pasteurized milk is safe, but it is not always clean milk. Clean milk is milk produced under sanitary surroundings and conditions, but it may come from tuberculous cows or harbor the germs and infective agents of disease and not be a safe milk. As milk is usually consumed raw, it is essential that it be both safe and clean. Milk, therefore, that is not pure may be a direct menace to the public health.

The pure milk movement was started primarily to secure safe milk for infants and the medical profession has taken the lead in educating and enlightening the public to the great importance of pure milk. The public is sadly in need of instruction as to the dangers which may exist in milk and in the methods of guarding against them. Milk has always been held up as an emblem of purity and the public does not realize the disease which may lurk in it and the dirt it conceals. It is more often a whitened sepulchre. Diseases of human origin known to be conveyed by milk are human tuberculosis, typhoid fever, scarlet fever, diphtheria, septic sore throat, dysentery and gastrointestinal diseases of infants. Bovine tuberculosis and foot and mouth disease are directly transmitted from the cow. The more serious and common infections in milk, therefore, are traced to human origin. Typhoid fever, scarlet fever, diphtheria and septic sore throat are the diseases which occur most often in epidemic form. An interesting and instructive account of a septic sore throat epidemic conveyed through the milk was reported by Dr. Overton in the July number of the *Health News*. Last August an epidemic of scarlet fever broke out in Albany and a careful examination by the health officer of all the sources

of infection revealed the fact that most of the cases occurred in families receiving milk from a certain dairy. This source of infection was stopped and what might have been a very serious outbreak was promptly checked. These two instances are not at all uncommon and illustrate a very important duty of a health officer. The health officer in country districts, as in the larger cities, should investigate the milk supply in every communicable disease when an epidemic occurs. These cases can be charted on a map on which the milk routes are indicated.

Children suffer most in milk-borne outbreaks because milk is their chief article of diet. Dr. Trask, whom we are honored by having with us at this Conference, gives the following suggestions in reporting milk epidemics:

1. The number of cases of the disease existing in the involved territory during the time covered by the epidemic.
2. The number of houses invaded by the disease.
3. The number of invaded houses supplied in whole or in part, directly or indirectly, by the suspected milk.
4. The number of cases occurring in invaded houses so supplied.
5. The number of houses supplied with the suspected milk.
6. The relative proportion of houses so supplied to those supplied by other dairies.
7. The time covered by the epidemic.
8. The location of the case or cases from which the milk became contaminated.
9. The relation of the original case to the milk.
10. The time relation of the original case to the epidemic.
11. The special incidence of the disease among milk drinkers.
12. The elimination of other common carriers of infection.
13. The effect upon the epidemic of closing the dairy or taking such measures as will eliminate possibility of milk contamination from the suspected focus.
14. The finding of the specific organism in the milk.

Dr. Williams will explain to you in detail the Sanitary Code relating to milk regulations. The health officer in meeting these requirements will have a very complete record of the dairies supplying milk to his village or city. The public should have



the benefit of this information. They do not know where pure milk can be obtained and the health officer should in some way make the records of his office available for this purpose. Several cities publish their milk reports and the standing of the dairies. In Syracuse any person can call upon the Department of Health and ascertain which is the best milk available in the section of the city in which he resides. The public in selecting the family milk should not be at the mercy of the best advertiser or of unscrupulous canvassers.

The consumer has certain responsibilities in the care of the milk. Much more thought and attention has been given to the production and distribution of milk than has been paid to its care after it has reached the home. The dealer may deliver pure milk properly bottled, and the householder may leave it for several hours on the doorstep. In the meantime the milk becomes warm; the street dust collects on the caps and lids of the bottles; stray dogs and cats may lick the tops and many other mishaps may take place and the best milk may be ruined.

Dr. Williams, of Rochester, made a very exhaustive examination of the condition and temperature of the iceboxes and refrigerators in his city. He found that the temperature was 50 degrees Fahrenheit in very few refrigerators and in the majority the temperature was between 60 and 70 degrees. It is absolutely impossible to keep milk sweet and clean at that temperature. Bacteria multiply with great rapidity when the temperature is over 50 degrees and placing the milk in the ordinary refrigerator gives a false sense of security. Milk should be placed directly on the ice. Cleanliness in handling and ice in keeping are the two chief precautions to be taken by the householder. The watchword for the consumer is to keep the milk clean, cool and covered.

Pure milk is an important factor in the great problem of infant mortality and the milk question is one that demands serious consideration on the part of the physician and also the health officer. The health officer should be the best judge of matters affecting the public health and the public have a right to look to him for guidance in public health matters.

Over one-third of the deaths in infants under one year of age are due to disorders of the intestinal tract and nine-tenths of these are in artificially fed infants. Most of these deaths occur

during the hot summer months when the keeping properties of the milk are reduced and the vitality and resistance of the child are lessened. The child's digestive system is particularly susceptible to infection in hot weather and the milk should be scrupulously guarded.

Dr. Osler is said to have remarked when a patient attributed to Providence the death of her bottle-fed baby from diarrhea: "Madam, God did not kill your baby; it was dirty milk."

In considering the question of infant feeding, we should remember that human milk is the only ideal food for human babies and that breast feeding is the only universal method of feeding infants. Unfortunately a very large number of the mothers of to-day are unable to nurse their babies more than a few weeks.

It is important for the physician to have a thorough understanding of the composition, character and variations of human milk, as upon it are based the rules for the preparation of cow's milk used as a substitute. The chief differences between woman's milk and cow's milk briefly are: the reaction in woman's milk is less acid; the fatty acids which make up the fat differ in number and proportion; the proteid is over twice as large in amount as cow's milk and is very different in character; the proportion of lactalbumen to casein is as 5 to 4 in mother's milk and 1 to 3 in cow's milk. The casein in cow's milk coagulates quickly into large tough curds by the action of rennet and acid, while the curds in woman's milk are soft, loose and flocculent. The difference in the percentage of sugar is considerable, cow's milk having  $4\frac{1}{2}$  per cent. and woman's milk 7 per cent. The salts in cow's milk are about three times as abundant and consist chiefly in a larger percentage of some of the lime salts. The most important difference, from the viewpoint of preventive medicine, is in the bacterial content. Mother's milk is practically sterile when it reaches the baby's mouth and is fresh and pure, for the chances of contamination are very slight. Cow's milk, on the other hand, may contain many millions of bacteria, for there is a long distance from the cow to the baby and the chances of contamination are very great.

The Chicago Department of Health some time ago published a cartoon, entitled "The long versus the short haul," and portrayed graphically the various manipulations from the cow to the baby. It pointed out the fact that the length of the time

for the milk to run from the cow end of the tube to the baby end of the tube in many of our cities is about thirty-six hours and that this tube is open in many places, so that the baby's food is frequently polluted. It also called attention to the fact that there might be a diseased cow or a diseased man at the country end of the tube.

When the American Medical Association had its meeting in Saratoga Springs some twelve years ago, there was a symposium on the subject of "Infant Feeding" in the Section on Children's Diseases. In the discussion, Dr. Jacobi said that he believed "the greatest advance that had been made in infant feeding in recent years was in the production and popular demand for pure milk."

Even the purest milk, when given to the baby in improper amounts and at irregular intervals, can do an immense amount of harm. It is not within the scope of this paper to discuss the various methods of infant feeding. Scientific and successful infant feeding can only be accomplished after a careful study of the individual needs and digestive capabilities of each baby. The milk should not only be modified but it should be adapted for each individual case.

There are to-day, unfortunately, a large number of cities and villages in our State where it is impossible to obtain pure milk. It is confidently expected that the new milk code, when its provisions are effectively, efficiently and intelligently carried out, will remedy this deplorable condition and will place pure milk within reach of every family in the State.

In this connection the following letter recently received at the Department of Health in Albany is of interest:

"———, N. Y., Aug. 18, 1914.

"State Department of Health, Albany, N. Y.,

"Mr. Herman M. Biggs, M. D.,

"Dear Sir: A short time ago you sent me a letter concerning my baby. And as there was so much help in the Papers you sent me and as my baby is sick I take the liberty of writing to you. I half been giving her cows milk Partly & the Breast Partly. But the cows milk is so Poor it isn't fit for a dog to eat let alone a little baby. Their isn't any Cream to it to speak of & it has a funny taste Part the time & half the time it is

sour when it is Delivered, but we half to Pay 7c. a quart for it sour or sweet.

"I am not the only ones that complain of the Poor milk.

"I should think a milk man would need to wear clean clothes when he is handling the milk at least anyway.

"I try to keep my Bottles and Nipples clean. I use the Hygeia kind so I can be sure of their being washed Perfectly clean.

"I tried given her Eskay's Food but she would not take it. I am now given her condinsed milk with a little lime water.

"I think The Infant Welfare Campaign is a lot of help but first I think the Health Department should get after the *dirty* milk men who peddle Poor milk, as that is certainly what we have in ———, New York.

"Very truly yours,

"——— ———."

The Health Officer is the proper and legal custodian of the public health. He is especially fitted to supervise the milk production in his community and his knowledge of the sources, nature and effects of conditions inimical to human life equips him with the most effective means of eliminating the dangers lurking in impure milk.

## EXOPHTHALMIC GOITRE.

*Read at the Eighth Annual Meeting of the Third District Branch of the Medical Society of the State of New York, held at Albany, September 13, 1914.*

By JOHN L. LOUTFIAN, A. B., PH. G., M. D.,

*Coxsackie, N. Y.*

In presenting this paper on goitre, I do not desire to describe all forms of goitres—whether congenital or acquired, neither those benign, cystic, collodial, vascular, annurysmal, nor cancerous, as the time allotted to me will not permit. It is the exophthalmic goitre and its surgical aspect that I wish to bring to your attention. Since the discovery by Robert James Grave,



in 1840, and subsequently by Carl Adolphus Basedow, in 1843, that exophthalmic goitre is a distinct anatomico-pathologic disease, there has been an enormous amount of research among the profession here and in Europe.

We all remember the old saying "All roads lead to Rome." It seems all researches, and the most efficient therapeutics recently employed—such as radio and radium therapy, animal and chemical therapy, and even surgical therapy point to the *gland thyroid* as the seat of mischief in the causation of Basedow's disease.

The etiology of Basedowian disease is not as yet settled. Many factors have been suggested by men of the highest standing in the profession, but still the real causative agent has not been found. The influence of heredity has been absolutely demonstrated. I have seen a goitre family, the father of which was born from a mother also having exophthalmic goitre, he having five daughters, all of whom had goitres of different sizes. The influence of heredity becomes more credible when reports of cretinism are studied. Fedère has shown that eighty per cent of cretins are born from parents, one of whom has goitre, the per cent of mothers so afflicted being larger. Kocher of Bern admits the correctness of this statement, and Bashford of London Institute believes such to be scientifically demonstrable among lower animals.

Exophthalmic goitre does not belong to the type of infection due to microbes or bacillæ, at least the germs are not isolated. R. McCarrison in the London *Lancet*, 10 February, 1912, states his belief that Basedowian disease is of microbic origin. He has made researches in India, and is convinced that the causative microbe exists in the intestinal tract.

The theory of toxic origin merits serious consideration. During my last visit to Turkey, I was called to a village near Broussa, where most of the women had goitre. The water supply, coming from the high crevices of Mount Olympus, several miles away, runs through the village streets. In another village, only two miles away, where the supply of water is from springs there are hardly any goitre cases. I believe the water of the first mentioned goitre village, in its journey from the mountains, absorbs some chemical substance or irritating poison, the identity of which I do not know. Filtration of the

water has no effect on the goitre-producing substance in it. This has been plainly demonstrated by Bircher, who gave to monkeys, imported from Africa to Hamburg, the water of a certain locality where goitre is endemic. They all showed enlarged thyroids. He tried the same water, after filtration, with like results. Monkeys which were given this water boiled showed no thyroidal enlargements. The above experimentation clearly shows that water of some localities and some unidentified composition, has either direct or indirect action on the hypertherapy of the thyroid gland.

*Symptoms.* Among many symptoms which belong to this disease, the three important and cardinal symptoms are trachycardia, tremor and exophthalmus. The rest of the symptoms, although present in each and every case to some degree, are not so pronounced as to require immediate attention and are of secondary importance. I refer to Græfe's sign, stationary position of the upper lid when the eye looks downward; Kocher's sign, "sudden retraction of the upper lid when the patient is made to look steadily at you or to look upward suddenly"; anemia, emaciation, irritability, muscular palsy, etc.

*Treatment.* The treatment of exophthalmic goitre is two forms—medical and surgical. In this paper, by arrangement with Dr. McCabe of Greenville, I will not touch the medical side of it, as he is a capable internist of long experience in the treatment of exophthalmic goitre. I personally have attended many cases of Basedowian sufferers and treated them by internal medication. I have operated on seven cases successfully, one of which is a man, and believe that medical treatment is inadequate, and cures rare, while surgical interference has relieved many sufferers and given happy results.

Capelle in an article published in 1908, stated that hypertrophy of the *thymus* gland (the existence of which gland among Basedowians had been proved by Mackenzie) gives a grave prognosis and forbids an operative mode of treatment. He based his practical conclusion on sixty autopsies, performed on cases which had died after operation. Capelle's statements were not taken very seriously however. Lenomant of Paris and Eiselsberg of Vienna strongly refused to accept Capelle's findings, and Shulze, in eighteen operations, in which the radio-

scope had showed the shadow of the hypertrophied thymus, reports only two deaths.

Surgery of the exophthalmic goitre is not at present in the experimental stage. Through the efforts of internist, physiologist and surgeon, it has become the safest, surest, and most logical treatment. To my mind the more quickly medical men are instructed as to the character of the disease and advise patients to be operated on, the higher will be the percentage of cures. European clinical statistics give a mortality of eight to ten per cent. Mayo Brothers' clinical statistics, just published, give a still lower per cent. If fatal cases were examined it would probably be found that they were patients who had applied after years of medical treatment, when nervousness and psychic excitement or thyroid toxemia were manifest, the right auricle and right ventricle dilated, and pulse as high as 140-150 per minute. Really cases like those often die on the operating table.

At present there are three operative procedures: (1) ligation, (2) partial thyroidectomy, (3) extirpation.

Ligation of the thyroid arteries (superior and inferior) is indicated only in vascular varieties or during the first stage of exophthalmic goitre. It is claimed by H. Alamartin, in the *Revue de Chirurgie*, to be a logical method and justifiable anatomically by physiologic experimentation. Ligation of these arteries, without causing necrosis, brings about a marked atrophy in the ischemic gland. As both lobes of this gland have independent circulation, even if all four arteries are ligated at the same time, no grave trouble need be feared because there is collateral circulation. The superior thyroid artery contains vaso-dilatory and secretory filaments of the gland; therefore it is best to section this artery close to the gland.

Thyroidectomy is the second but more popular operation among the surgeons of this country. The removal of the gland in its entirety is never practiced; sometimes, if practicable, only the diseased portion is removed; at other times only a small part of a lobe is left, in order to prevent myxedema.

The line of incision is semicircular, extending from one border of the sterno-cleido-mastoid muscle to the anterior border of the same muscle on the opposite side just below the tumor.

This line of incision is not a fixed one, each operator has his own choice. The skin and the loose tissue incised expose the tumor. Mayo divides also the muscle that overlaps the goitre to have easy access. Should adhesions be present, a blunt instrument or finger will loosen them without any hemorrhage. After exposing the goitre a little traction by hand upward gives a better field of ligation and removal. Pack loosely the cavity with iodoform gauze; above all be sure there is no hemorrhage; put iodine over the exposed surface of the cavity. I generally shake the head gently from side to side to see if there will be any hemorrhage. It is claimed that the goitrous secretion and the blood are easily absorbed by this exposed surface and lead to that dreadful stage of thyrotoxicemia.

In those cases of goitre upon which I have operated I have used thyroidectomy. The latest of my cases was an Italian laborer on whom thyroidectomy was performed. Dr. Rommel, who assisted me, called my attention to the profuse bleeding, just before closing the wound. Both of us feared that one of the thyroid arteries had been severed. Sponging closely revealed a venous hemorrhage which is rather common when blood vessels are unusually engorged.

3. *Extirpation.* This form of operation appeals to those who expect to do their first operation; it is comparatively easy. There is less chance of hemorrhage, less injury to the parts and parathyroids and recurrent laryngeal nerve. The incision and exposing of the wound is the same as in thyroidectomy. When the goitre is reached, it is similar to the peeling of an orange.

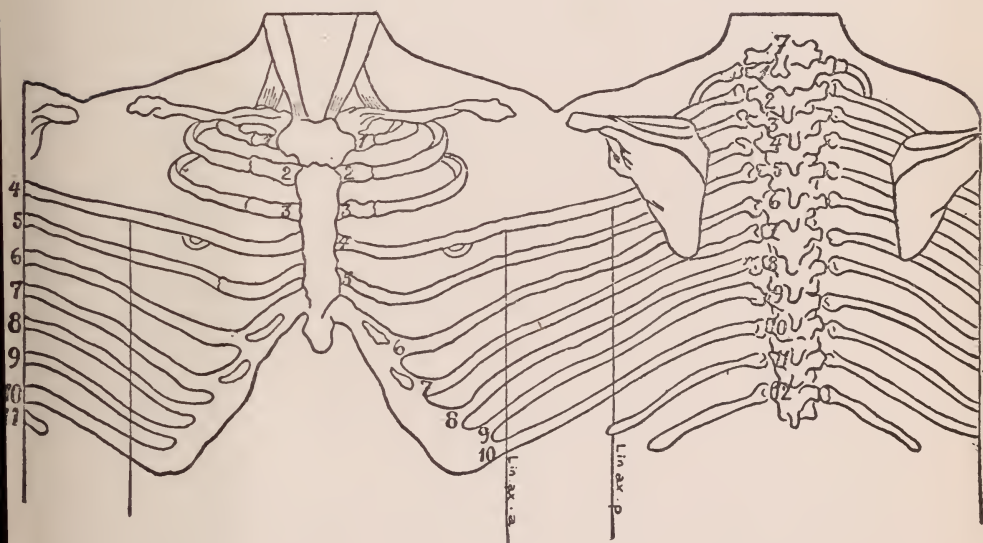
In closing let me remind you that the prognosis of post-operative cases depends upon absolute cessation of hemorrhage before the wound is closed, absolute asepsis, no injury to the recurrent laryngeal nerve, and an avoidance of acute thyrotoxicemia and psychic dyspnea.



## Clinical and Pathological Notes

*Sandberg's "Planithorax," a New Chest Diagram.* By ARTHUR T. LAIRD, M. D., Duluth, Minn.

The accompanying diagram of the chest is taken from Brauer's *Beiträge zur Klinik der Tuberkulose*, volume XXIX, 1913, p. 113. Its originator, H. B. Sandberg, calls it a "planithorax" and compares it to Mercator's projection of the earth's surface. He also speaks of it as a "pneumothorax chart." The usual chest diagram is unsatisfactory in that conditions in the axilla cannot be accurately represented upon it, and this is especially annoying when the extent of a pneumothorax is to be outlined. Physicians using the old style diagrams frequently neglected to make thorough examinations of the axillary region.



In Sandberg's diagram it will be seen that the thorax is divided by the sternum, the spinal column, and the anterior and posterior axillary lines into six fields. The axilla is well represented and the physician is practically under obligation to examine it thoroughly.

## Editorial

All Indians, when travelling, carry by a sling a parchment bag, which they call the *medicine bag*. It contains the simples these primitive men employ to cure the wounds they receive in combat, their surgical instruments, and the powders intended to get rid of fevers.

After examining Brighteye's wound, the Chief tossed his head with pleasure, and immediately set about dressing. With a sharp instrument, made of an onyx, and with the edge of a razor, he first cleared off the hair round the wound; then he felt in his medicine bag, pulled out a handful of oregano leaves, which he carefully pounded and mixed up with Catalonian refino. We will remark here, that in all Indian medicaments spirits play a great part. He added to this mixture a little water and salt, formed the whole into a thick paste, and, after washing the wound twice with spirits and water, he applied this species of cataplasm to it, fastening it on with abanigo leaves. This simple remedy produced an almost instantaneous effect; within ten minutes the hunter gave a sigh, opened his eyes, and sat up, looking round him like a man suddenly roused from a deep sleep, and who does not completely recognize external objects.

*The Indian Scout.*

GUSTAVE AIMARD.



### The Neurosis of the Battle.

There has been very little literature upon the functional nervous disorders attending the excitement and tension of the war. The extensive and exhaustive records of our Civil War deal almost entirely with the surgical aspects of wounds and their results, and have shown little concern for other features. It is probable that accurate and scientific records will follow the present conflict in Europe. The press despatches have announced that the hospital service in France is fully developed and that the emergencies of this unusual practice are not only to be carefully met but are to be fully studied and recorded. A brief forerunner of the kind of work to be done is contained in the presentation of some cases at the Eiselsberg-Hochenegg Clinic in Vienna by Dr. O. Marburg, published in the *Wiener klinische Rundschau* of October 5, 1914.

Dr. Marburg had observed eight hundred wounded patients

from the field, and among these eight hundred there were many without definite anatomical lesions of the nervous system, who simply revealed the psychic trauma incident upon a predisposition to a reaction brought about by the exigencies of war. Among the cases were numerous forms of functional disease—neuroses or hysteriform conditions, which appeared to have had their origin in sudden emotion of the brain, and they might be properly regarded as instances of traumatic neurosis. Part of these patients presented a manifest predisposition, and the condition of others was apparently due entirely to shock. Dr. Marburg regarded the prognosis in all of these cases as good. He demonstrated a patient in whom he regarded the prognosis as unfavorable, which he designated as an instance of what he called “war psychosis.” The man was twenty-two years of age, and had been thrown to the ground by an explosion of schrapnel. He lost his ability to comprehend the time and the place, did not speak or answer questions, and was only able to swallow if food was introduced into his mouth. His condition suggested a state of moderate stupor, and was similar to some cases of the kind which occurred during the Russian and Japanese war, which was designated by Schimekow as depressive-stuporous amentia. These earlier cases did not do well.

Further observations of this class of cases will be awaited with great interest. The question is always an open one as to whether the sharp and strenuous mental strain of war is more instrumental in destroying the nervous and mental health of a community than the slower and more persistent anxiety often attending the pursuits and rivalries of peace.

### Public Health

Edited by Arthur Sautter, M. D., Health Officer.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, OCTOBER, 1914.

COMPILED BY WILLIAM F. FULGRAFF, REGISTRAR.

#### *Deaths.*

Consumption. . . . .	30
Typhoid fever . . . . .	1
Scarlet fever . . . . .	2
Measles. . . . .	0
Whooping cough . . . . .	0

Diphtheria and croup.....	I
Grippe. . . . .	I
Diarrheal diseases . . . . .	7
Pneumonia. . . . .	5
Broncho-pneumonia. . . . .	I
Bright's disease . . . . .	14
Apoplexy. . . . .	11
Cancer. . . . .	9
Accidents and violence.....	10
Deaths under one year.....	20
Deaths over 70 years.....	36
<hr/>	
Total deaths . . . . .	164
Death rate . . . . .	17.54
Death rate less non-residents.....	14.44

*Deaths in Institutions.*

Albany Hospital . . . . .	8	10
Child's Hospital . . . . .	I	0
County House . . . . .	3	2
Homeopathic Hospital . . . . .	3	9
Hospital for Incurables.....	0	I
House of Good Shepherd.....	I	0
Penitentiary. . . . .	I	0
Public places . . . . .	I	2
St. Margaret's House.....	I	I
St. Peter's Hospital.....	2	7
St. Vincent's Female Asylum.....	0	I
Maternity Hospital . . . . .	0	2
Albany Hospital Camp.....	6	6

Births. . . . .	176
Still births . . . . .	9

## TUBERCULOSIS.

*Bender Laboratory Report on Tuberculosis.*

Positive. . . . .	24
Negative. . . . .	19
<hr/>	
Total. . . . .	43
<hr/>	
Living cases on record October 1, 1914.....	359
Cases reported:	
By card . . . . .	19
Dead cases by certificate.....	5
<hr/>	
	24
<hr/>	
Total. . . . .	383



Dead cases previously reported.....	25	
Dead cases not previously reported.....	5	
Duplicates. . . . .	1	
Removed. . . . .	4	
		<hr/> 35
Living cases on record Nov. 1, 1914.....		348
Total tuberculosis death certificates filed during October.....		30
Non-resident deaths:		
City at large.....	1	
Albany Hospital Camp.....	6	
		<hr/> 7
Resident deaths . . . . .		23

*Report of Visiting Tuberculosis Nurse.*

Old cases . . . . .	14
New cases . . . . .	29
Returned from hospitals.....	8
	<hr/>
Total. . . . .	51
Disposition of old and new cases:	
Died. . . . .	6
Sent to hospitals.....	12
Sent to Raybrook.....	2
To General Tuberculosis Nurse.....	16
Lost track of.....	3
Left town . . . . .	2
Remaining under treatment.....	10
	<hr/>
Total. . . . .	51
Visits made . . . . .	32
Visits made, old cases.....	250
Calls at Board of Health office.....	28

BUREAU OF CONTAGIOUS DISEASE.

*Cases Reported.*

Typhoid fever . . . . .	13
Scarlet fever . . . . .	34
Diphtheria and croup.....	17
Chickenpox. . . . .	42
Measles. . . . .	2
Whooping-cough. . . . .	0
Consumption. . . . .	23
	<hr/>
Total. . . . .	131

*Contagious Disease in Relation to Schools.*

	Reported	
	D.	S.F.
Public School No. 2.....	..	1
Public School No. 6.....	1	1
Public School No. 7.....	1	..
Public School No. 11.....	..	3
Public School No. 14.....	1	..
Public School No. 17.....	2	..
Public School No. 18.....	4	1
Public School No. 20.....	..	3
St. John's School.....	..	2
High School .....	..	1
Christian Brothers Academy.....	..	1
St. John's Academy.....	..	1
St. Patrick's Institute.....	..	1
Cathedral School .....	..	4
St. Mary's School.....	..	1

## Number of days quarantine for diphtheria:

Longest..... 24      Shortest..... 7      Average..... 12 2/8

## Number of days quarantine for scarlet fever:

Longest..... 49      Shortest..... 30      Average..... 37 28/41

## Fumigations:

Houses..... 73      Rooms..... 411

Cases of diphtheria reported..... 17

Cases of diphtheria, antitoxin used..... 10

Cases of diphtheria, antitoxin not used..... 7

Deaths after use of antitoxin..... 1

## BUREAU OF PATHOLOGY.

*Bender Laboratory Report on Diphtheria.*

Initial positive. . . . . 17

Initial negative. . . . . 215

Release positive. . . . . 17

Release negative. . . . . 58

Failed. . . . . 10

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Total. . . . . 317

*Test of Sputum for Tuberculosis.*

Initial positive. . . . . 13

Initial negative. . . . . 35

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Total. . . . . 48

BUREAU OF MARKETS AND MILK.

Public market inspections.....	16
Market inspections .....	86
Fish market inspections.....	3
Pork house inspections.....	4
Rendering house inspections.....	6
Slaughter house inspections.....	3
Hide house inspections.....	3
Milk depots inspected.....	7
Milk houses inspected.....	94
Milk houses deficient.....	33
Milk wagons inspected.....	26
Milk wagons unclean.....	4
Dairies inspected .....	110
Cows examined .....	1,288
Cows quarantined .....	7
Cows removed .....	3
Milk cans inspected.....	54
Milk cans unclean.....	4
Milk cans condemned.....	2
Lactometer readings .....	5
Temperature tests .....	5
Fat tests .....	5
Sediment tests .....	45

MISCELLANEOUS.

Work certificates issued to children.....	17
Number of complaints of nuisances.....	57
Privy vaults .....	7
Closets. . . . .	6
Plumbing. . . . .	14
Other miscellaneous complaints.....	30
Number of dead animals removed.....	451
Cases assigned to health physicians.....	97
Calls made .....	249

## Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR OCTOBER, 1914.—Number of new cases, 198; classified as follows: Dispensary patients receiving home care, 26; district cases reported by health physicians, 8; charity cases reported by other physicians, 75; moderate income patients, 64; metropolitan patients, 25; old cases still under treatment, 193; total number of cases under nursing care during month, 391. Classification of diseases for the new cases: Medical, 21; surgical, 12; gynecological, 8; obstetrical under pro-

fessional care, mothers 46, infants 46; infectious diseases in the medical list, 65. Disposition: Removed to hospitals, 21; deaths, 21; discharged cured, 102; improved, 31; unimproved, 4; number of patients still remaining under care, 212.

*Special Obstetrical Department.*—Number of obstetricians in charge of cases, 1; students in attendance, 5; nurses in attendance, 4; patients carried over from last month, 2; new patients during month, 6; patients discharged, 7; visits by head obstetrician, 2; by students, 53; by nurses, 59; total number of visits for this department, 114.

*Visits of nurses* (all departments).—Number of visits with nursing treatment, 1442; for professional supervision of convalescents, 784; total number of visits, 2,226; visits to pay cases, 562; to charity cases, 880; unrecorded visits, 784; cases reported to the Guild by 4 health physicians, and 38 other physicians; graduate nurses 8, certified nurses 1 and pupil nurses 7 on duty.

*Dispensary Report.*—Number of clinics held, 90; new patients, 202; old patients, 332; total number of patients treated during month, 534. Classification of clinics held: Surgical, 12; nose and throat, 7; eye and ear, 16; skin and genito-urinary, 8; medical, 11; lung, 11; nervous, 4; stomach, 4; children, 13; gynecological, 8.

**CEREBROSPINAL MENINGITIS.**—The health department calls attention to a considerable increase in the number of deaths reported from epidemics of cerebrospinal meningitis. During the week ended October 24, ten deaths have been reported as against one in the corresponding week of 1913. It is suggested that the increased mortality may be a forerunner of an approaching epidemic. The department, however, is well prepared to handle the situation, having a good supply of antimenigitis for free distribution.

**MEDICAL INSPECTORS FOR DEFECTIVE PUPILS.**—In order to meet the necessity for medical inspectors of ungraded classes, the board of education has amended its by-laws so as to provide for them. The amendment requires that the applicants, in addition to a graduation from a medical school recognized by the Regents of the State of New York must have had two years specialized experience in the treatment of nervous diseases of children with special reference to mental defectives. It was further ruled that on the nomination of the Board of Superintendents the Board of Education might appoint such inspectors and assistant inspectors of public school athletics and such inspectors and assistant inspectors of ungraded classes as it deemed necessary. Such inspectors and assistant inspectors shall be subject to the supervision and direction of the Board of Education.

**MENTAL DEFECTIVES IN NEW YORK STATE.**—According to a census just completed by the State Commission to investigate provisions for the mentally defective, there are 8,399 mentally defective persons in this State outside of New York City. The County of Monroe having the



greatest number 784 and Fulton County having the largest percentage 0.0045.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—The regular meeting of the Medical Society of the County of Albany was held at the Elk's Club, 138 State St., Tuesday evening, November 17, 1914, at 8.30 P. M. The following papers were read: "Alopecia," Dr. L. B. Mount; "Aphthous Stomatitis," Dr. C. E. Mullens; "Dermoid Cyst of Superior Maxilla," Dr. E. G. Benson; "Nasal Lues and Palatal Prosthesis," Dr. W. F. Conway; "Chronic Endocarditis with Multiple Valvular Lesions," Dr. E. S. Haswell; "Arthritis Deformans," Dr. E. W. Hannock; "Traumatic Pneumothorax," Dr. Orla A. Druce; "Use of Carpus Lutein in Menopause," Dr. W. C. Egerton; "Report of Three Atypical Cases of Scarlet Fever," Dr. G. W. Papen, Jr.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—A special meeting of the Medical Society of the County of Albany was held at the State Education Building, October 30th, at 8.30 P. M. in memory of Drs. John V. Hennessy, Daniel V. O'Leary and Charles H. Smith.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—A regular meeting of the Medical Society of the County of Schenectady was held at the Mohawk Club, Schenectady, on Tuesday, November 10th, 1914, at 8.30 P. M. Scientific program: "Negative and Positive Diagnosis of Organic Lesions of the Gastro-Intestinal Tract," Dr. Lewis G. Cole, New York City; "Acute Pulmonary Condition Simulating Tuberculosis," Dr. N. A. Pashayan.

SARATOGA SPRINGS MEDICAL SOCIETY.—A meeting of the Saratoga Springs Medical Society was held at the Elk's Club, Saratoga, on November 6th, at 9 P. M.

UNITED STATES CIVIL SERVICE EXAMINATION.—Epidemiologist, male (\$4,000), December 15, 1914. The United States Civil Service Commission announces an open competitive examination for epidemiologist, for men only. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position in the public health service for service in the field, at a salary of \$4,000 a year, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of this position will be to make laboratory and field investigations of the diseases of man in relation to prevalence, causation and methods of control, and to conduct field studies of public health matters. It is desired to secure persons thoroughly qualified to do laboratory and field research work in epidemiology, and to organize and conduct such work in the field.

Competitors will not be assembled for examination, but will be rated on the following subjects, which will have the relative weights indicated:

Subjects.	Weights.
1. Education. . . . .	25
2. Experience and fitness.....	50
3. Publications. . . . .	25
Total.....	100

Graduation with an A. B. or B. S. degree from a college or university of recognized standing, and graduation with an M. D. degree from a medical school of recognized standing, and at least five years' experience in epidemiological research, including field studies and laboratory technique, and at least five years' public health service under Federal, State, or municipal authorities, are prerequisites for consideration for this position. Experience in epidemiological research and experience in public health service may be concurrent.

Statements as to education and experience are accepted subject to verification.

Applicants must have reached their twenty-fifth but not their fortieth birthday on the date of the examination.

This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for Forms 304 and 2095, stating the title of the examination for which the forms are desired, to the United States Civil Service Commission, Washington, D. C., the Secretary of the United States Civil Service Board, Post Office, Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Cal.; Customhouse, New York, N. Y., New Orleans, La., Honolulu, Hawaii; Old Customhouse, St. Louis, Mo.; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R. No application will be accepted unless properly executed, excluding the medical certificate, and filed with the Commission at Washington prior to the hour of closing busines on December 15, 1914. Issued November 11, 1914.

HARVEY SOCIETY LECTURES.—The tenth course of Harvey Society lectures was inaugurated October 10th. The lectures are given on alternate Saturday evenings at the New York Academy of Medicine. The following is the schedule for the course: Oct. 10th, Prof. Frederick R. Gay, University of California, "Experimental Studies on Methods of Anti-Typhoid Immunization;" Oct. 24th, Prof. Thomas Lewis, University of London, "The Excitatory Process in the Heart;" Nov. 7th, Prof. Arthur S. Loevenhart, University of Wisconsin, "Certain Aspects of Vital Oxidation;" Nov. 28th, Prof. Lafayette B. Mendel, Yale University, "Nutrition and Growth;" Dec. 12th, Prof. Lawrence J. Henderson, Harvard University, "The Excretion of Acid in Health and Dis-

ease;" Jan. 16th, Dr. Edwin R. Baldwin, Adirondack Cottage Sanitarium, "Immunity in Tuberculosis with Special Reference to Racial and Clinical Manifestations;" Jan. 30th, Prof. Hans Zinsser, Columbia University, "The More Recent Developments in the Study of Anaphylactic Phenomena;" Feb. 13th, Prof. John A. Fordyce, Columbia University, "Some Problems in the Pathology of Syphilis;" Feb. 27th, Prof. Robert R. Bensley, University of Chicago, "Structure and Relationships of the Islets of Langerhans and Criteria of Histological Control in Experiments on the Pancreas;" Mar. 13th, Prof. Elliot P. Joslin, Harvard University, "Carbohydrate Utilization in Diabetes Based upon Studies of the Respiration, Urine and Blood."

**FOOT AND MOUTH DISEASE.**—Fourteen States are under quarantine on account of the prevalence of foot and mouth disease in cattle, interstate shipments of cattle, sheep and swine are absolutely prohibited from the States now quarantined. The quarantine declared does not prevent shipment of stock from unaffected districts to slaughter houses within the quarantined area.

**AMERICAN RED CROSS SURGEONS.**—The American hospitals at Gleiwitz and Cassel are doing such satisfactory work that the German Government is about to request that three more American surgeons be sent to Germany. In case that is done the Government will turn over another large hospital in Gleiwitz to American supervision. Commissions in the Russian army were given to the surgeons of the American Red Cross units assigned to service in Russia. The commissions given to the two senior surgeons carry the rank of General while the four junior surgeons receive the rank of Colonel.

**KILLED BY WOOD ALCOHOL.**—Upwards of twenty Vermont farmers died last week at the result of drinking whiskey purchased at a village drug store. The district is under prohibition regulation and the men of the neighborhood get their supply for the Sunday drink at the drug store. At this particular store the liquor was simply flavored wood alcohol and the result is many deaths and several cases of blindness.

**EXTENSION WORK IN PUBLIC HEALTH EDUCATION.**—The Weekly Bulletin of the Department of Health says that the Bureau of Public Health Education is cooperating with a number of teachers in the training schools and high schools of New York City in giving their students an insight into the work of the Department of Health. The students use one of the bureau's monographs as a text book in their work in hygiene and in municipal government, following their book studies by a visit to the health exhibit on the fifth floor of the department building. In addition to this the bureau has arranged for extension lectures to the students in their school similar to lectures given in courses arranged for the Health Department's employees. Work of this sort is bound

to lay the foundation for sympathetic and effective cooperation between the Department of Health and the public at large.

PERSONALS.—Dr. THOMAS WILSON (A. M. C. '74), Hudson, and family have returned from abroad.

—Dr. ALEXANDER W. FAIRBANK (A. M. C. '74), of Chazy, N. Y., has been re-elected to the legislature of the State of New York as member of assembly representing Clinton County.

—Dr. FREDERICK L. CLASSEN (A. M. C. '81), Albany, has been appointed attending physician in connection with the State insurance fund of the compensation department with office at Albany.

—Dr. WILLIAM A. BING (A. M. C. '09), Albany, has been appointed bacteriologist of Ontario County to succeed Dr. Raymond Sanderson resigned.

—Dr. ROBERT REID (A. M. C. '14), has been appointed one of the resident surgeons of the Albany Hospital.

DIED.—Dr. HORATIO CRAIG (A. M. C. '78), died at his home in Ballston Spa, July 13, 1914, aged 60.

## Current Medical Literature

### REVIEWS AND NOTICES OF BOOKS

*Medical Gynecology.* By S. WYLLIS BANDLER, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third thoroughly revised edition. Octavo of 790 pages, with 150 original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5 net; half morocco, \$6.50 net.

This excellent book on medical gynecology is too well known to need an extensive review. This new edition contains many notable additions to the text, including a thorough review of all the latest work on the internal secretions and their effects upon the genital functions of women. The many illustrations are well reproduced. The work is to be highly recommended to those who wish a complete and thorough consideration of one of the latest works regarding the medical treatment of the diseases of women.

T. L.

*Essentials of Nervous Diseases and Insanity.* By JOHN C. SHAW, M. D., Late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital. Fifth edition, thoroughly revised, by Louis Masamajor, M. D., Chief of Clinic, New York Neurological Institute. 12mo. of 187 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$1 net.

The fifth and the revised edition of this handy compend embraces the essentials of all nervous and mental diseases. The discussions on the symptomatology, diagnosis and treatment are concise and to the point. There are numerous illustrations that enhance the value of the book.

N. A. P.



## OBSTETRICS

Edited by James P. Boyd, M. D.

*The Treatment of Sterility by the Dudley-Reynolds Operation.*

FREDERICK C. HOLDEN. *American Journal Obstetrics*, Vol. LXVIII, No. 6, December, 1913.

The writer's statistics are based upon forty-eight cases of sterility and dysmenorrhoea (from the service of Dr. Polak, Long Island College Hospital) operated upon since May, 1911. Subsequent reports were obtained from forty of the patients operated upon with the following results: dysmenorrhoea had been cured in eighty-five per cent of the cases and twenty-five per cent of the patients treated for sterility had become pregnant. The latter percentage is more favorable than might at first be appreciated since but nineteen months had elapsed between the first and last operations recorded.

In the majority of the patients treated for sterility, operations were not performed until competent specialists had pronounced the husbands potent; further, no operation was attempted unless the pelvis was found free from acute or chronic inflammatory processes.

The technique of the modified Dudley operation is as follows: the os and cervix are iodized, the canal dilated and thoroughly cleansed of mucous; with the dilator reinserted the typical Dudley incision is carried up internally to and including the internal os and externally to the utero-vaginal junction; V-shaped sections are then removed from each side of the divided posterior lip of the cervix; the usual sutures of No. 2 chromic are then added; the final step in the operation is the insertion of a fine silk suture approximating the cut edges of the os. The placing of this last suture is claimed of utmost importance; its purpose is to prevent the erosion commonly experienced with the Dudley operation; the suture is removed in four or six weeks leaving the os free from granulating areas.

The essentials of the Reynolds operation are as follows: with the cervix drawn forward, a one and one-half inch incision is made just below the uterovesical junction down to uterine tissue; the connective tissue is loosened by blunt dissection and the bladder pushed up; with this procedure, the anterior curve in the uterine wall is found to be straightened out; chromic sutures are inserted in such a manner as to convert the transverse incision into a horizontal one and lengthen the anterior vaginal wall.

With the Dudley operation performed in the manner described, the long axis of the cervix is made to coincide with that of the uterine cavity rather than that of the vagina; the cervix itself is placed posteriorly, well back in the "seminal pool." The Reynolds operation corrects the flexion in the anterior uterine wall. The combined operations have given satisfactory results in sterility and dysmenorrhoea and have been followed by marked improvement in the general condition of the patient.

P. T. H.

## NEUROLOGY

Edited by Henry Hun, M. D.

*Neuroblastomata: With a Study of a Case Illustrating the Three Types that Arise from the Sympathetic System.*

H. R. WAHL. *The Journal of Medical Research*, May, 1914, Vol. XXX, No. 2, Page 205.

The author's case and his study of the literature, has led him to the following summary and conclusions in regard to this class of tumors.

He believes that nerve tissue may give rise to new growths, which are properly called neuroblastomata. They may occur in any part of the nervous system and are of two types, according as they are composed chiefly of differentiated or undifferentiated elements. The neurocytoma is the undifferentiated type arising in the cerebro-spinal nervous system. The corresponding type derived from the sympathetic system is the malignant neuroblastoma of the sympathetic nervous system or the "sympathoma embryonale." The ganglioneuroma and the chromaffine tumor represent the differentiated nerve growths, the latter taking its origin only in the sympathetic nervous system, the former arising also in the cerebro-spinal nervous system. Most neuroblastomata, especially of the undifferentiated type, arise in the sympathetic nervous system.

Most of the neuroblastomata of the differentiated type contain both mature and immature cell elements, one type greatly predominating over the other. Foci of indifferent cells are usually present in both ganglioneuromata and in chromaffine tumors. Differentiated elements occur, but less frequently, in the undifferentiated neuroblastomata. There may be any combination of differentiated and undifferentiated elements in these nerve tumors.

Though the nerve tumors of the sympathetic system—malignant neuroblastomata, ganglioneuromata and chromaffine tumors—show very marked differences in appearance, behavior, and morphology, they are closely related genetically, being varying differentiations of the same mother cell—the sympathetic formative cell ("Bildungszelle")—which normally differentiates into ganglion cells, peripheralglial cells, and chromaffine cells of the sympathetic system. The infrequency with which pure neuroblastomata of any one type occur, the occasional occurrence of nerve tumors, composed of two distinct portions, each composed of a different form of nerve cells, with transitions between them, and my tumor containing all three elements actively participating in the growth, establishes the intimate relationship of these tumors to one another. Accordingly, the ganglioneuroma and the chromaffine tumor are the differentiated counterparts of the malignant neuroblastoma.

The malignant neuroblastoma of the sympathetic system metastasize rapidly and extensively and are especially prone to invade the liver, lymph glands, and bones, but often show comparatively little infiltration into the surrounding tissues. These metastases occur most often by way of the blood stream, but may also follow the lymph channels. There is

usually a marked tendency to the formation of extensive areas of necrosis and hemorrhage.

All forms of neuroblastomata are undoubtedly much more frequent than has been generally recognized, their identification being often easily overlooked.

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*Contribution to Heterotopia of the Gray Substance of the Brain. (Beitrag zur Heterotopie der grauen Substanz im Gehirn.)*

S. OSEKI. *Monatsschrift für Psychiatrie und Neurologie, Band XXXIV, Heft 4, 1913.*

One of the peculiarities of the central nervous system is occasionally shown by unusual sites of areas of gray substance, as, for instance, in microcephaly, microgyria and macrogyria. The place of predilection is: first, in the wall of the ventricle in the vicinity of the basal ganglia, but the condition is also seen in the deeper regions of the white substance. Occasional areas of heterotopia are also found in the cerebellum and spinal cord. Monakow classified these heterotopias upon morphological and embryological studies in six forms:

First. Slight areas separated from their normal site in the neighborhood of individual or small groups of nerve cells of small calibre, as, for instance, individual pyramidal cells in the course of the white fibers.

Second. Heterotopia of separated groups of cells of the gray substance. These are individual groups of ganglion cells, most prominent in metaplasia.

Third. Small areas of gray substance under the ependyma of the lateral ventricles. They consist of glia cells, embryonic cells, neuroblasts, and, occasionally, of a fully developed ganglion cell.

Fourth. Subcortical convolutions having the characteristics of typical pyramidal cells of different sizes, also of pear-shaped cells, neuroblasts and numerous glia nuclei.

Fifth. A special kind of the fourth-form. The separated cortex is differentiated from the fourth form on one side by a clearly outspoken row of cells, and on the other side by fissures.

Sixth. Paradoxical structure. Here there are areas of abnormally developed cell elements. Here may be found in apparently normal structure of the convexity, pathologically changed pyramidal cells lying vertically, horizontally and obliquely, so that the normal order and relations of the cells are disturbed.

The appearance of the heterotopia of the gray substance in the central nervous system is most frequently seen in diseases of the central nervous system, as, for instance, in hydrocephaly, inflammations of the brain, and also as a consequence of mental disease, in epilepsy and idiots and occasionally in healthy persons.

In three cases reported by the writer the peculiar anomalies of structure appeared to be due to errors in early periods of development. There are two epochs in the development of the brain which may be

regarded as: first, the formative, and second, the organo-genetic phases. The variety and richness of the relation which depends upon the fineness of organization of the brain is due in the second phase to displacement, transitions in location and order, boundaries, movements, migration of cells. The fundamental principles of the architecture of the brain are in consequence as follows: (first) displacement of the elements; (second) grouping of the elements by the development of boundaries, the entrance of intervening substances, and the sites of the elements; (third) overdevelopment of the elements.

With the completion of the establishment of the gray and white substance between the fourth and sixth months the coarse structure of the formative phase is concluded and the organo-genetic phase begins. Any disturbance at this time affects the site, number and relations of the structure. Any disturbance in a later time alters the finer differentiation within the established limits.

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## MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

*On the Treatment of Leukaemia with Benzol.*

LEWELLYS F. BARKER, M. D., and JAMES H. GIBBES, M. D. *From Bulletin of The Johns Hopkins Hospital, December, 1913, Vol. XXIV, No. 274. p. 363.*

In July, 1912, von Koranyi reported the first case of splenomyelogenous leukaemia in the treatment of which benzol was used. He states that he was led to the institution of this therapy through the pharmacological effects of the chemical as illustrated in Selling's experiments, *i. e.*, an inhibition of the white blood corpuscle-forming organs and a neutral effect or a stimulant action upon the production of red blood cells and haemoglobin.

From his experience with the drug, von Koranyi formulates the following conclusions:

1. Benzol first tends to increase the white blood cells, but shortly leads to an improvement in the leukaemic condition. The fall in the white blood count usually begins at the end of the second week or at the beginning of the third week of therapy, the decrease at first being slow and then quite rapid. The general condition of the patient is improved just as with X-rays and other forms of treatment.

2. Benzol acts more slowly than X-rays but some patients improve under its administration who do not respond to the usual therapy. Previous or concomitant applications of the X-ray seem to hasten the action of the new drug.

3. The drug can be safely given in doses of four grams daily, and its administration with equal parts of olive oil seems to lessen the tendency to produce unpleasant symptoms, such as heart-burn, eructations, and vertigo.



4. Benzol seems to be efficacious in the treatment of polycythemia with splenic enlargement, one case showing a fall in red blood cells from 9,000,000 to 6,700,000 after three weeks of treatment.

The rapid accumulation of new data on this subject has tended to confirm in almost every detail, von Koranyi's original statements. Billings, of Chicago, has recently reported five cases in which he used benzol, four of his patients suffered from myelogenous leukaemia, one of them from lymphatic leukaemia. He notes essentially the same changes as reported by von Koranyi, but draws attention to the entire disappearance of myelocytes from the blood in one of his patients, whose white count had been reduced from 191,000 to 3,600. Barker and Gibbes in this article report a case of splenomyelogenous leukaemia that responded in the usual manner to benzol therapy. The patient was a white male fifty-seven years old. The symptoms which he considers as due to the present illness began approximately two months before his entrance to the hospital. They consisted of extreme nervousness, anorexia, insomnia and marked depression with feelings of general inefficiency. Physical examination was entirely negative. The blood picture showed:

Red blood cells.....	3,672,000
White blood cells.....	345,000
Hb (Sahli) .....	65%

Benzol was administered beginning with two grams daily and increased one gram each day until it had reached five grams. The drug was then continued in this quantity for about ten weeks. Five days after this treatment was started the white blood cells rose to 210,000. Then they began to fall and after twelve weeks the white count had fallen to 10,200. Approximately seven weeks after the benzol treatment was discontinued his blood count was as follows:

Red blood cells.....	4,096,000
White blood cells.....	6,800
Hb (Sahli) .....	76%

#### *Salvarsan in Pernicious Anaemia.*

THOMAS R. BOGGS. *Johns Hopkins Hospital Bulletin*, Vol. XXIV, No. 272, October, 1913.

In a short report Boggs records his experience with the use of salvarsan in four cases of pernicious anaemia and that of Barker and Thayer in seven cases. This report is of value in view of the conflicting statements in the literature on this form of therapy, the fact that in many reported cases of its use it was merely accessory to other methods of treatment, and that many warnings have been issued against the use of this powerful drug in this disease. He mentions Bramwell's series of seven cases with "cure" or favorable results in four cases.

Leede's five cases with unfavorable results are not so important as four of them were admittedly moribund when the drug was tried. The other case was, however, apparently injured. Friedlander's one case was distinctly benefited.

In all of Boggs' cases there was a favorable reaction to the drug as shown by regeneration of the blood and relief of the symptoms. One was a remarkable apparent cure of a patient in his fifth relapse, who was unresponsive to Fowler's solution and showed only slight benefit from a long course of sodium cacodylate injections. Under intravenous administration of salvarsan, in doses of three-tenths grams every four weeks, he showed a steady rise in his blood count. In sixteen weeks his red cells rose from 500,000 to 5,000,000, and his haemoglobin from twenty-three per cent to ninety per cent. The patient was well except for mild degenerative changes in his spinal cord. He worked in the hospital for six months after his cure but has since been lost sight of. During the treatment he contracted tertian malaria and his blood count fell, but rose again after quinine and the next dose of salvarsan. He gave no history of syphilis and his Wasserman reaction was negative.

In another case the red cells rose from 1,100,000 to 3,400,000 in twenty days after the first dose of three-tenths grams salvarsan intravenously, eventually reaching 4,800,000 with eighty-five per cent haemoglobin. This patient also gave no history of syphilis and his Wasserman reaction was negative. This patient did not sustain his improved condition and relapsed rather quickly, to rise again to an approximately normal count after two more doses of salvarsan. The blood picture was however never free from the qualitative changes of pernicious anaemia, and after several successive relapses and improvements during the following year, in which the subjective state was but little altered, the patient died of an intercurrent bronchopneumonia.

The other two cases, both negative for syphilis, received but one injection, and were greatly improved, with an average rise of 2,000,000 red cells when they left the hospital.

The cases of Barker and Thayer were treated only in part with salvarsan. One, considered moribund on admission, received three-tenths grams and died forty-eight hours later from pre-existing myocardial degeneration, without any reaction or material change in the blood count. Another died eighteen days after admission, receiving one dose of two-tenths grams eleven days before death. There was no considerable reaction and no drop in the blood count of more than 200,000 cells. The other five cases all showed considerable improvement with initial drop in the red cell count, never more than 200,000. These cases also received sodium cacodylate or Fowler's solution so the report is of value merely in showing that salvarsan may be given to such patients without risk.

The cases reported showed, as a rule, a rather sharp febrile reaction, lasting six to twelve hours after each injection, in contrast to the very mild or absent reaction in the case of syphilitics.

The writer considers that the reported results of this form of therapy in pernicious anaemia justifies its further use with special attention given to the question of previous syphilis in the patients, to the influence of salvarsan when given alone, to the effect on arsenic refractory cases, and to the permanency of the results.

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*The Picric Acid and Camphor Treatment of Ringworm.*

AGNES SAVILL. *The Practitioner*, July 1913. p. 94.

Savill has employed with marked success, a lotion composed of fifteen grams of gum camphor dissolved in an equal amount of rectified spirits, to which has been added half a gram of picric acid. The author's opportunities for observation were exceptionally good as they were carried on at a hospital for children and also at a skin hospital and careful records of more than fifty cases were kept. Some of the cases had been treated for months by other recommended cures, such as salt and vaseline, ointments containing iodine, or carbolic acid and sulphur, or mercury.

Success depends in a large measure upon the perseverance, accuracy and intelligence of the mother as well as upon the proper compounding of the lotion. This should be prepared by first dissolving the camphor in the spirit and then adding the (previously dissolved?) picric acid. The hair around the diseased surface should be carefully cut away and the lotion painted on morning and evening. The light yellow powder which accumulates as the lotion evaporates should be washed away once or twice each week and it is imperative that the hair be kept short and at the end of about two week when the hair becomes loose careful epilation should be performed and no grease, oil or vaseline should be applied.

In order to be sure of the degree of progress, Savill is in the habit of rubbing over the patches occasionally with chloroform, which as it evaporates leaves a grey, frosted appearance wherever there is a diseased hair or stump of hair remaining. The author is enthusiastic with the results obtained and if her records are accurate the method is a valuable one.

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**SURGICAL PATHOLOGY.**

Edited by George E. Beilby, M. D.

*An Experimental Study of the Relation of Bile to Ulceration of the Mucous Membrane of the Stomach.*

GEORGE MILTON SMITH. *Journal of Medical Research*, May, 1914. Vol. XXX, No. 2, Page 147.

The author's purpose in this paper has been to record a number of experimental observations on the relation of bile, in the presence of an excess of hydrochloric acid of five-tenths per cent. strength, to necrosis and ulceration of the mucous membrane of the stomach; to describe the

character of the lesions produced by the interaction of bile with hydrochloric acid upon the epithelial surface of the stomach, and to define some of the conditions under which such lesions were most readily produced.

It occurred to the author that the action of bile on the stomach mucous membrane, although at times clearly harmless, could be intensified under certain abnormal conditions, so that it might cause ulceration of the gastric mucous membrane. The animals used for his experiments were the cat and dog, chiefly the former. He found early that the gastric mucous membrane of the dog showed a greater resistance to injury produced by bile and hydrochloric acid than did the stomach of the cat. The application of bile and hydrochloric acid to the stomach was performed in several different ways: (a) by direct application by incision of the stomach; (b) by stomach tube; (c) after opening the abdomen by injecting into the stomach bile and acid through an aspirating needle passed through the wall of the stomach; (d) by injecting bile and acid backward into the stomach through the pylorus by means of an aspirating needle, passed through the wall of the duodenum; (e) by anastomosing the gall bladder with the stomach, after ligating the common bile duct, and subsequently introducing acid into the stomach of the animal by means of a stomach tube.

As a result of this study and the author's experiments, we obtain the following facts:

1. When introduced into the stomach of the cat or the dog, bile in the presence of an excess of five-tenths per cent. hydrochloric acid may cause injury to gastric mucous membrane, whereas bile or five-tenths per cent. hydrochloric acid introduced alone into the stomach is without harmful effect.

2. Lesions of the gastric mucous membrane produced by bile in the presence of an excess of five-tenths per cent. hydrochloric acid consist of necrosis of epithelium and interglandular tissue with hemorrhages into the mucous membrane, as a result of which small superficial ulcers may form.

3. Ulceration of gastric mucous membrane, following the introduction of bile and hydrochloric acid into the stomach injected by way of the duodenum, is produced most readily between the third and the fifth hour after meals; least readily in the fasting stomach or shortly after the ingestion of food.

4. If confined in the fasting stomach by ligating the esophagus and the duodenum, bile in the presence of an excess of five-tenths per cent. hydrochloric acid is more toxic for gastric epithelium than either bile alone or bile in the presence of an alkaline solution, such as five-tenths per cent. sodium carbonate.

5. The presence of mucous in the stomach protects gastric epithelium against injury by bile and hydrochloric acid.



# INDEX TO VOLUME XXXV

---

Abscess, Brain, of otitic origin.....	469
Abdominal symptoms. By Douglas C. Moriarta, M. D.....	323
Acetyl-salicyclic acid and aspirin.....	474
Adams, Wesley M., M. D. The treatment of night sweats.....	99
Adolescence, The psychosis of. By J. Montgomery Mosher, M. D..	303
Albany Bureau of Health.....	345
County Medical Society. See Medical.	
Department of Health, Vital Statistics.....29, 107, 142, 212	
278, 341, 396, 453, 508, 566, 624, 657	
Guild for the Care of the Sick.....33, III, 146, 225, 281	
345, 400, 456, 511, 569, 628, 661	
Hospital. See also Hospital.	
Tuberculosis Sanatorium.....49, 52, 70, 77, 78, 81,	
94, 99, 103, 106	
Twelfth report of Pavilion F. By J. Montgomery Mosher,	
M. D. ....	613
Legislation at .....	348
Medical College. See also Association of the Alumni.....	112
141, 571, 574	
South End Dispensary.....	227
Alcohol, Killed by wood.....	665
American Academy of Ophthalmology and Oto-Laryngology.....	630
Association of Medical Jurisprudence.....	35
of Progressive Medicine.....	348
College of Surgeons.....	403
Hospital Association .....	152
<i>Journal of Surgery</i> .....	573
Laryngological Association .....	348, 515
Medical Association .....	347, 515
Editors Association .....	348
<i>Medicine</i> . Gold medal.....	514
Neurological Association .....	382, 339
President's address. By Henry Hun, M. D.....	479
Ophthalmological Association .....	347
Pharmaceutical Association .....	348
Proctologic Society .....	347, 572
Red Cross Surgeons.....	665
Roentgen Ray Society.....	462, 512
Society for Physicians' Study Travels.....	348
Therapeutic Society .....	282, 450
Anaemia, Salvarsan in pernicious.....	671
Animals, Natural immunity of against poison.....	523
Aphasia and apraxia, Motor.....	410

Apoplexy, 'Spasmodic closing of cerebral arteries in its relation to...	423
Archambault, La Salle, M. D. The cortical connections of the red nucleus. . . . .	527
Memorial of J. L. Archambault, M. D.....	230
Army Medical Corps examinations.....	36, 631
Arthritis in monkeys.....	169
Association of the Alumni of the Albany Medical College.....	225
ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE, FORTY-FIRST ANNUAL MEETING.....	351
Address of welcome. By John A. Sampson, M. D.....	352
Alumni dinner, The.....	396
commencement exercises, The.....	392
executive committee and recording secretary, Report of the.....	355
historian, Report of the. By Arthur J. Bedell, M. D.....	359
Necrology. . . . .	360
nominating committee. Report of the.....	390
President's address, The. By George H. Janes. M. D.....	357
Report of the class of 1844.....	361
of the class of 1854. . . . .	361
of the class of 1864. . . . .	362
of the class of 1874. By H. E. Mereness, M. D.....	363
of the class of 1884. By M. D. Stevenson. M. D.....	366
of the class of 1894. By Otis H. Deck, M. D.....	374
of the class of 1904. By B. J. Singleton, M. D.....	382
Treasurer, Report of the. By Robert Babcock, M. D.....	356
Association of Railway Surgeons, The N. Y. & N. E.....	630
Atophan and novatophan, The effects of.....	478
Babcock, Robert, M. D. Treasurer's report (Alumni Association)..	356
Battle, The Neurosis of the.....	656
Bedell, Arthur J. M. D. Historian's report (Alumni Association)...	359
Bence-Jones proteinuria in leukemia.....	302
Bendell Joseph Lewi, M. D. Factors of safety in the treatment of fractures. . . . .	115
Bender Hygienic Laboratory. Report of the Director. By Harry S. Bernstein, M. D.....	264
Bernstein, Charles, M. D. The determination of mental defect....	198
Bernstein, Harry S., M. D. Bender Hygienic Laboratory. Report of the Director . . . . .	264
Blindness, The prevention of.....	226
Blumer, George, M. D. The pathogenesis and symptomatology of syphilitic aortitis . . . . .	415
BOOK REVIEWS:	
A Clinical Manual of Mental Diseases. By Francis X. Dercum, M. D. . . . .	156
A Compend on Bacteriology, Including Animal Parasites. By Robert L. Pitfield, M. D.....	161
A Compend on Diseases of the Skin. By Jay F. Schamberg, M. D. . . . .	467

## BOOK REVIEWS—Continued.

A Manual of Surgery. By Francis T. Stewart, M. D.....	46
Applied Bacteriology for Nurses. By C. F. Boldman, M. D. and Marie Grund, M. D.....	520
A Treatise on Diseases of the Skin. By Henry W. Stelwagon, M. D. ....	409
Blood Pressure from the Clinical Standpoint. By Francis Ashley Faught, M. D.....	464
Case Histories in Pediatrics. By John Lovett Morse, A. M., M. D.	234
Clinical Hematology. By Gordon R. Ward, M. D.....	522
Collected Papers by the Staff of St. Mary's Hospital (Mayo's Clinic), 1912 .....	288
Diagnostic Symptoms in Nervous Diseases. By Edward L. Hunt, M. D. ....	409
Diet and Hygiene in Diseases of the Skin. By L. Duncan Bulkeley, A. M., M. D.....	467
Diseases and Deformities of the Foot. By Joseph Nutt, B. L., M. D. ....	160
Epidemic Cerebrospinal Meningitis. By Abraham Sophian, M. D.	519
Essentials of Nervous Diseases and Insanity. By John C. Shaw, M. D. ....	666
False Modesty. By E. B. Lowry, M. D.....	638
Formulaire de Thérapeutique Clinique. par le Dr. L. Pron et Dr. A. Cantonet.....	286
Genito-urinary Diagnosis and Therapy. By Ernest Portner, M. D.	46
Genito-Urinary Diseases and Syphilis. By Edgar Ballenger, M. D.	159
Golden Rules of Gynecology. By George B. Norberg, M. D....	160
Gonorrhoea in Women. By Charles C. Norris, M. D.....	638
Himself. By E. B. Lowry, M. D.....	161
History of Medicine. By Frank H. Garrison, M. D.....	633
International Clinics. Edited by Henry W. Cattell, M. D. Volume I. Twenty-third Series, 1913.....	161
International Clinics. Edited by Henry W. Cattell, M. D. Volume II. Twenty-third Series, 1913.....	45
International Clinics. Edited by Henry W. Cattell, M. D. Volume III. Twenty-third Series, 1913.....	465
International Clinics. Edited by Henry W. Cattell, M. D. Volume IV. Twenty-third Series, 1913.....	466
International Clinics. Edited by Henry W. Cattell, M. D. Volume I. Twenty-fourth Series, 1914.....	521
Introduction à la Médecine des Passions. By Dr. Maurice Boigey	287
Laboratory Methods. By G. R. and E. G. C. Williams, M. D..	637
L'action directe Sur les Centres Nerveux-Centrothérapie. By Dr. Pierre Bonnier.....	287
Les Techniques Anatomico-pathologiques du Système Nerveux. By G. Roussy and J. Lhermitte.....	286
Malaria: Etiology, Pathology, Diagnosis, Prophylaxis and Treatment. By Graham E. Henson, M. D.....	289

## BOOK REVIEWS—Continued.

Manual of Obstetrics. By John Osborn Polak, M. Sc., M. D....	47
Marriage and Genetics. By Charles A. L. Reed, M. D.....	154
Massage—Its Principles and Technic. By Max Bohm, M. D....	636
Medical Gynecology. By S. Wyllis Bandler, M. D.....	666
Principles of Surgery. By W. A. Bryan, A. M., M. D.....	158
Private Duty Nursing. By Katharine De Witt, R. N.....	636
Psychanalysis. A. A. Brill, Ph. B., M. D.....	637
Pyorrhoea Alveolaris. By F. Hecker, B.Sc., D. D. S., A. M., M. D. ....	159
Recreations of a Physician. By A. Stuart Chisholm, M. D....	634
Stammering and Cognate Defects of Speech. By C. S. Bluemel.	156
Ten Sex Talks to Boys. By Irving D. Steinhardt, M. D.....	520
Text-Book of Diseases of the Nose, Throat and Ear. By Francis Packard, M. D.....	45
The Elements of Bacteriological Technique. By J. W. H. Eyre, M. D. ....	521
The Modern Hospitals. By John A. Hornsby, M. D., and Richard E. Schmidt .....	635
The Narcotic Drug Diseases and Allied Ailments. By George E. Pettey, M. D.....	464
The Practice of Pediatrics. By Charles G. Kerley, M. D.....	407
The Problem. The Autobiography of a Physician. By Charles Percy, M. D., B.Sc.....	288
The Ready Reference Hand Book of Diseases of the Skin. By George T. Jackson, M. D.....	408
The Surgical Clinics of John B. Murphy, M. D. Vol. II, Num- bers V and VI.....	235
Treatment of Chronic Leg Ulcers. By Edward Adams, M. D..	638
Brackett memorial gateway, Saratoga Springs, N. Y.....	629
Brain, Heterotopia of the gray substance of.....	669
Capitol District. Charities Convention.....	148
Carcinoma of the cervix of the uterus.....	292
Cauterization of inoperable.....	293
gastric, Chronic gastric ulcer and its relation to.....	299
Carmody, Attorney General, Decisions by.....	35
Carpenter, Howard P., M. D. The laboratory diagnosis of syphilis of the nervous system.....	274
Cesarian section. Editorial. By Paul T. Harper, M. D.....	28
Chapin, John B., M. D. The impulse to wander.....	501
Children, Causes of backwardness in. By Charles H. Johnson....	185
Discussion. By Clinton P. McCord, M. D.....	195
Insurance of .....	81
Corning, Erastus, M. D. The albumin reaction in the sputum of 228 cases of pulmonary tuberculosis.....	94
The tuberculosis sanatorium as a department of a general hospital	52
symposium, Introduction to.....	49
The use of scarlet red in the treatment of tuberculous laryngitis	77



Corning, Erastus, M. D. Weight records of first one hundred nurses at Albany Hospital Tuberculosis Sanatorium.....	103
Crothers, T. D., M. D. Hospital Treatment of Inebriates.....	639
Cumston, Charles Greene, M. D. Letter from Switzerland. Arsenobenzol and syphilis.....	336
Dawes, Spencer L., M. D. Editorial. The American Therapeutic Society. . . . .	450
DEATHS:	
Ayers, Dr. Douglas.....	42
Bacon, Dr. Charles J.....	632
Barney, Dr. Charles S.....	517
Becker, Dr. Isaac S.....	114
Blake, Dr. James A.....	405
Brundage, Dr. Alfred Royce.....	518
Burbeck, Dr. Charles Hempstead.....	350
Carpenter, Dr. Henry H.....	350
Carson, Dr. Matthew R.....	632
Craig, Dr. Horatio.....	666
Crummey, Dr. Frank J.....	42
Devine, Dr. John R.....	518
Finch, Dr. Elmer E.....	517
McAvenue, Dr. Owen F.....	114
Morris, Dr. John W.....	632
O'Brien, Dr. Phillip T.....	42
O'Leary, Dr. Daniel V.....	517
Pomeroy, Dr. George P. K.....	153
Reilley, Dr. James H.....	518
Reynolds, Dr. Thomas H.....	153
Rice, Dr. Nathaniel Brown.....	517
Roarke, Dr. Frank K.....	350
Simons, Dr. Charles J.....	517
Smith, Dr. Charles M.....	239
Smith, Dr. Dennis M.....	42
Van Alstyne, Dr. John L.....	350
Ward, Dr. Milan Theron.....	518
Deck, Otis H., M. D. Report of class of 1894. (Alumni Association). . . . .	374
Defective pupils, Medical Inspectors for.....	662
Defectives, Mental, in New York State.....	662
Dementia paralytica, The presence of spirochaete in.....	467
Dentists, Examination for. United States Army.....	149
Detroit College of Medicine and Surgery.....	113
Douglas, Malcolm, M. D. Pneumothorax with a report of three cases	81
Drug law, The new.....	349, 514
Drugs, The gastro-intestinal absorption of.....	476
Dysentery, B. Aërogenes capsulatus in.....	299
Exophthalmic Goitre. By John L. Loutfian, M. D.....	650

Farrell, Elizabeth. Discussion of the determination of mental defects	204
Ferris, Albert Warren, M. D. Saratoga and its mineral waters.....	257
Foot and mouth disease.....	665
Fractures, The factor of safety in the treatment of. By Joseph Lewi Bendell, M. D.....	115
Fromm, Nelson K., M. D., and Clement F. Theisen, M. D. The use of normal horse serum for the prevention of hemorrhage in nose and throat operations.....	550
Gordinier, Hermon C., M. D. Study of a case of the adult type of poliomyelitis. . . . .	483
Gordon, Alfred, M. D. Spasmodic closing of cerebral arteries in its relation to apoplexy.....	483
Harper, Paul T., M. D. Editorial on Cesarian section.....	28
Harvey Society lectures.....	664
Hawn, Clinton B., M. D, and Henry Hun, M. D. Clinical studies of the circulation with the polygraph, especially with regard to the venous pulse . . . . .	I
Health of the American troops at Vera Cruz.....	571
Free tests for. Equitable Life Assurance Society.....	513
Service, The Public.....	571
Heroin habit, The.....	41
Hill, Dr. Robert W. Mental defectives.....	179
Hinman, Eugene E., M. D. The treatment of tuberculous laryngitis with scarlet red.....	78
Hodgkin's disease . . . . .	525
The blood picture in.....	525
Cultural results in.....	168
Primary of the spleen.....	300
Hospital, The Albany.....	49, 52, 70, 77, 78, 81, 94
Twelfth report of Pavilion F. By J. Montgomery Mosher, M. D.	613
The new nurses' home.....	346
Hospital Association, The American.....	152
The Lebanon, New York City.....	41
Long Island State.....	570
Mohansic State . . . . .	516
New York Skin and Cancer.....	228
Hun, Henry, M. D., and Clinton B. Hawn, M. D. Clinical studies of the circulation with the polygraph, especially with regard to the venous pulse.....	I
The President's Address to the American Neurological Association. . . . .	479
Ileo-colitis of infancy, Acute. By Daniel V. O'Leary, Jr., M. D.....	556
Impulse to wander, The. By John B. Chapin, M. D.....	501
Inebriates, Hospital Treatment of. By John D. Crothers, M. D....	639
Infant Feeding, The Importance of Pure Milk for Infants and. By Henry L. K. Shaw, M. D.....	644

## IN MEMORIAM:

Archambault, J. L., M. D. By La Salle Archambault, M. D.....	230
Ayers, Douglas, M. D.....	42
Barney, Charles S., M. D.....	405
Carson, Matthew Ripley, M. D.....	633
Ennis, Alexander, M. D.....	153
Finch, Elmer E., M. D.....	463
Gartner, Charles, M. D.....	519
Hennessey, John V., M. D.....	519
O'Brien, Phillip T., M. D.....	44
O'Leary, Vincent Daniel, M. D.....	518
Reilly, James H., M. D.....	406
Smith, Dennis M., M. D.....	114
Van Alstyne, John L., M. D.....	463
Insane, The alien, Federal legislation on.....	228
Insurance, Child, elimination of excessive.....	113
International Congress of Industrial Diseases.....	516
of Neurology, Psychiatry, and Psychology.....	282
of Occupational Diseases .....	228, 349
of Ophthalmology. . . . .	112
Intestinal obstruction .....	524
Janes, George H., M. D. The President's address. (Alumni Association). . . . .	357
Johnson, Charles H., M. D. Causes of backwardness in children...	185
Krida, Arthur, M. D. The treatment of the parasymphilitic nervous diseases and late syphilitic nervous manifestations by intraspinal therapy. . . . .	243
Labyrinth operations in vertigo.....	474
Lactation, Drugs used during.....	477
Laird, Arthur T., M. D. Sandberg's "Planithorax," a new chest diagram. . . . .	655
Larynx, Papillomata of the, in children.....	471
Legislative notes .....	227
Leonard Hospital, The, Troy, N. Y.....	282
Leukaemia, Bence-Jones proteinuria in.....	302
On the treatment of, with benzol.....	670
Lipo-dystrophia. . . . .	412
Long Island College Hospital, The.....	402
Loutfan, John L., M. D. Exophthalmic Goitre.....	650
McCord, Clinton P., M. D. Causes of backwardness in children. (Discussion.) . . . . .	195
The question of sex education.....	586
McGill University. Post graduate instruction.....	347
May, James V., M. D. Modern psychiatry as related to therapeutics.	495
Measles at Cornell University.....	283
Medical Corps examinations, The Army.....	36, 631
inspection. The, and examination of school children. By Paul V. Winslow, M. D.....	331





PERSONAL—Continued.

Burton, Dr. James G.....	404
Carter, Dr. George C.....	463
Classen, Dr. Frederick L.....	666
Craig, Dr. Joseph D.....	113
Conway, Dr. William F.....	404
Cunningham, Dr. Thomas H..... .....	517
Curry, Dr. Marcus J.....	632
Doescher, Dr. Frederick T.....	41
Druce, Dr. Orla A.....	41
Fairbank, Dr. Alexander W.....	666
Farrell, Dr. Henry A.....	114
Fox, Dr. Walter C.....	285
Fromm, Dr. Nelson K.....	350, 574
Garlick, Dr. Frederick J.....	632
Gifford, Dr. Clayton L.....	404
Griffin, Dr. Gerald E.....	574
Gutmann, Dr. John H.....	350
Guyer, Dr. Fred N.....	113
Harris, Dr. Joseph F.....	114
Haswell, Dr. Eddy S.....	350
Hoffman, Dr. Conrad R.....	574
Howard, Dr. Harry S.....	574
Humphrey, Dr. Ray H.....	350
Kreicker, Dr. Frederick L.....	404
Krida, Dr. Arthur.....	153
Lanahan, Dr. Joseph A.....	574
Loop, Dr. Harry J.....	632
Lucas, Dr. Henry A.....	350
Lyon, Dr. John H.....	114
McElwain, Dr. John A.....	153
Mauro, Dr. Domenico.....	350
Moore, Dr. Floyd H.....	42
Murray, Dr. Howard C.....	517
Murray, Dr. William H.....	153
Myers, Dr. Adam Y.....	230
Nicosia, Dr. Walter C.....	285
Noerling, Dr. Henry J.....	114
Nolan, Dr. Michael E.....	517
O'Brien, Dr. Joseph P.....	404, 517
Packard, Dr. Chauncey B.....	285
Parker, Dr. John.....	230
Post, Dr. Ralph B.....	41
Purcell, Dr. Frank.....	41
Quinlan, Dr. Francis B.....	42
Reid, Dr. Robert.....	666
Riggs, Dr. Hiram B.....	463
Ritter, Dr. Fred L.....	114

## PERSONAL—Continued.

Ryan, Dr. Thomas.....	574
Sautter, Dr. Arthur.....	113
Shaw, Dr. Henry L. K.....	153
Smith, Dr. Dennis M.....	42
Smith, Dr. Edward S.....	517
Smith, Dr. Theobald.....	350
Southwell, Dr. John F.....	41
Stevenson, Dr. Michael D.....	404
Stillman, Dr. William O.....	574
Thornton, Dr. Michael J.....	517
Wilson, Dr. Thomas.....	41, 666
Winslow, Dr. Paul V.....	285
Wolbach, Dr. S. Burt.....	405
Woodhall, Dr. Charles W.....	230
Woodhead, Dr. Melvin T.....	350
Philadelphia Polyclinic, The. Staff changes.....	514
Physicians and casualty companies agree.....	513
"Planithorax," Sandberg's, A new chest diagram. By Arthur T. Laird, M. D.....	655
Pneumothorax, Artificial. One hundred and ten cases of.....	236
Poliomyelitis, Study of a case of the adult type of. By Hermon C. Gordinier, M. D.....	483
Pregnancy and labor in heart affections.....	239
<i>Prescriber, The</i> .....	462
Ptomaine poisoning, To be studied.....	516
Public Health Education, Extension Work in.....	665
Rabies, The cultivation of the parasite of.....	301
Radium control bill, The.....	151
therapy in laryngo-rhinology.....	48
Red Cross and hygiene at Berne.....	402
call for nurses.....	571
seals sold in 1913.....	459
Renal pain, The causes of. By E. MacD. Stanton, M. D.....	19
Rheumatic fever, Submiliary myocardial nodules in.....	294
Ringworm, The picric acid and camphor treatment of.....	673
Salvarsan, The brain in death from.....	176
The local treatment of Vincent's angina with.....	475
Sampson, John A., M. D. Address of welcome, The. (Alumni Association.) .....	351
Saratoga and its mineral waters. By Albert Warren Ferris, M. D..	257
Saunders, W. B. & Co.'s new text-books.....	149
Scarlet red in the treatment of tuberculous laryngitis. By Eugene E. Hinman, M. D.....	78
The use of. By Erastus Corning, M. D.....	77

Serum, normal horse, The use of for the control of hemorrhage..	473
for the prevention of hemorrhage in nose and throat opera-	
tions. By Clement F. Theisen, M. D., and Nelson K.	
Fromm, M. D.....	550
therapy and vaccines, The principles of.....	477
Sex education in schools. By Ira S. Wile, M. D.....	579
The question of. By Clinton P. McCord, M. D.....	586
hygiene, Report of the Committee on. By Henry L. K. Shaw,	
M. D. ....	575
Public instruction in. By William F. Snow, M. D.....	593
question from the woman's standpoint, The. By Rosalie	
Slaughter Morton, M. D.....	602
Shaw, Henry L. K., M. D.	
Report of the Committee on Sex Hygiene.....	575
The importance of pure milk for infants and infant feeding....	644
Singleton, B. J., M. D. Report of the class of 1904 (Alumni Asso-	
ciation.) . . . . .	382
Snow, William F., M. D. Public instruction in sex hygiene.....	593
Spasms, Familial cortical.....	411
Stanton, E. MacD. An analysis of deaths occurring in the course	
of 1,573 surgical operations.....	432
The causes of renal pain.....	19
Stapleton, Edward A., M. D. Diseases of the nasal accessory sinuses	121
State Board examinations.....	630
Boards, new members of.....	513
Charities Aid Association.....	401
and Correction. Fifteenth Conference.....	459
Department of Health, The New York.....	113, 147, 150, 226
227, 283, 284, 403, 404, 513, 516, 570, 571, 572	
Hospitals, New York.....	152, 403, 563, 570
medical inspection of schools.....	629
Boards, Federation of.....	149
Society. The New York.....	112
Fourth District Branch.....	629
Third District Branch.....	515, 573
of New York. Convocation of the University of the.....	629
Sanitary Officers. Fourteenth annual conference.....	573
Thirteenth annual conference.....	34, 629
Sterility, The treatment of, by Dudley-Reynolds operation.....	667
Sterilization law killed.....	514
Stevenson, M. D., M. D. Report of the class of 1884. (Alumni	
Association.) . . . . .	366
Stomach, The relation of bile to ulceration of the.....	673
Stone, Warren B., M. D. Autogenous vaccines in colon bacillus	
infections. . . . .	135
Strong's, Dr., Sanitarium.....	282
Surgeons of North America, Clinical Congress of.....	112

<i>Surgery, Annals of</i> .....	41, 462
Nasopharyngeal in otitis media.....	178
of the tonsil.....	47
Permanent home of.....	515
Surgical operations, An analysis of deaths occurring in the course of 1573. By E. MacD. Stanton, M. D.....	432
Syphilis, Arseno-benzol and. By Charles Greene Cumston, M. D...	336
Cerebral. . . . .	72
of the nervous system, The laboratory diagnosis of. By Howard P. Carpenter, M. D.....	274
so-called latent, The clinical conditions of.....	174
Syphilitic affections of the nervous system, The intra spinous treat- ment of . . . . .	413
aortitis, The pathogenesis and symptomatology of. By George Blumer, M. D.....	415
late, nervous manifestations, The treatment of the parasyphilitic nervous diseases and, by intraspinal therapy. By Arthur Krida, M. D.....	243
Test, The gonococcus complement fixation.....	297
Theisen, Clement F., M. D., and Nelson K. Fromm, M. D. The use of normal horse serum for the prevention of hemorrhage in nose and throat operations.....	550
Thrombosis and embolism following operations and childbirth.....	291
Ante-mortem, in the right heart and pulmonary arteries.....	171
Thyroid tissue tumors of the ovary.....	293
Tonsil, Modern surgery of the.....	47
in the blood current.....	301
Tubercle bacilli in the feces.....	166
Tuberculosis among cows.....	283
day. . . . .	631
in families, A study of.....	235
in guinea pigs, Spontaneous.....	237
of the kidney, Diagnosis of.....	162
sanatoria not injurious.....	460
Sanatorium Contributions. The albumen reaction in the sputum of two hundred and twenty-eight cases of pulmonary tuber- culosis. By Erastus Corning, M. D.....	94
Introduction. By Erastus Corning, M. D.....	49
Pneumothorax. With a report of three cases. By Malcolm Douglas, M. D.....	81
A study of the therapeutic effects of thermopenetration in the treatment of phthisis pulmonalis. By Howard Van Rensselaer, M. D.....	70
The treatment of night sweats. By Wesley M. Adams, M. D.	99
of tuberculous laryngitis with scarlet red. By Eugene E. Hinman, M. D.....	78



## TUBERCULOSIS SANATORIUM CONTRIBUTIONS—Continued.

The tuberculosis sanatorium as a department of the general hospital and its educational advantages. By Erastus Corning, M. D.....	52
The uses of scarlet red in the treatment of tuberculous laryngitis. By Erastus Corning, M. D.....	77
Weight records of first one hundred nurses at the Albany Hospital Tuberculosis Sanatorium. By Erastus Corning, M. D. ....	103
Sanatorium of the Albany Hospital.....	106
of the Metropolitan Life Insurance Company.....	403
Tucker, Dr. Willis G. Presentation of a loving cup to.....	403
Turpentine, A warning to users of.....	283
United States Civil Service Commission examinations.....	35, 37
	228, 229, 349, 460, 663
Department of Agriculture notices.....	38
Public Health Service.....	571
Uterine inertia .....	233
Uterus, Emptying the, as a method of treating puerperal eclampsia..	242
The elastic area in the isthmus of the.....	240
Four cases of inversion of the.....	290
Vaccination, Compulsory in schools.....	572
Vaccine, and serum therapy, The principles of.....	477
Vaccines, Autogenous, in colon bacillus infections. By Warren B. Stone, M. D.....	135
Van Rensselaer, Howard, M. D. A study of the therapeutic effects of thermo-penetration in the treatment of phthisis pulmonalis.....	70
Venous pulse, Clinical studies of the circulation with the polygraph, especially with regard to the. By Henry Hun, M. D., and Clinton B. Hawn, M. D.....	I
Vital statistics, Reporting of. (N. Y. State Dept. of Health.).....	404
Vivisection trial, The Philadelphia.....	282
Wile, Ira S., M. D. Sex education in schools.....	579
Winslow, Paul V., M. D. The medical inspection and examination of school children.....	331
Workmen's compensation law, The.....	514
Yale Medical School, The.....	506

## ILLUSTRATIONS

---

Illustrating Clinical Studies in regard to the Venous Pulse.....	facing page 2
	facing page 6
	Eight charts facing page 18
Illustrating Pneumothorax with a Report of Three Cases.....	
	Figure I page 85
	Figure II page 86
	Figure III page 87
	Figure IV page 88
	Figure V page 89
	Figure VI page 90
	Figure VII page 91
	Figure VIII page 92
	Figure IX page 93
Illustrating Factors of Safety in the Treatment of Fractures.....	
	Two plates facing page 118
Illustrating Diseases of the Nasal Accessory Sinuses....	facing page 132
	facing page 133
Portrait of J. L. Archambault, M. D.....	facing page 230
Illustrating The Treatment of Parasyphilitic Nervous Diseases...	
	Chart facing page 248
Picture of the New Nurses Home.....	facing page 346
Portrait of Charles S. Barney, M. D.....	facing page 404
Illustrating a Case of the Adult Type of Acute Poliomyelitis.....	
	Two plates facing page 486
Illustrating Cortical Connections of the Red Nucleus.....	
	Two plates facing page 534
	Two plates facing page 535
Sandberg's "Planithorax," A new chest diagram.....	page 655











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